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THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., Editor

Published monthly by The Dentists' Supply Company, Candler Bldg., Times Square, 220 West 42d Street, New York, U. S. A., to whom all communications relative to subscriptions, advertising, etc., should be addressed.

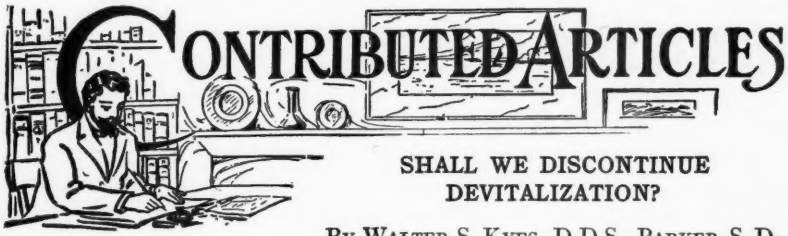
Subscription price, including postage, $1.00 per year to all parts of the United States, Philippines, Guam, Cuba, Porto Rico, Mexico and Hawaiian Islands. To Canada, $1.40. To all other countries, $1.75.

Articles intended for publication and correspondence regarding the same should be addressed EDITOR DENTAL DIGEST, Candler Bldg., Times Square, 220 West 42d Street, New York, N. Y.

The editor and publishers are not responsible for the views of authors expressed in these pages.

Entered as Second Class Matter, at the Post-Office at New York City. Under the Act of Congress, March 3, 1879.

Vol. XXII **APRIL, 1916** **No. 4**



SHALL WE DISCONTINUE DEVITALIZATION?

BY WALTER S. KYES, D.D.S., PARKER, S. D.

A number of years ago there came into my office a young man for whom I treated and crowned a lateral incisor. Some time later he again appeared at the door of my office with several places on his heretofore smiling and pleasant visage, badly bruised and discolored until his face seemed almost as expressionless and quite as black as a stove lid. The crown of gold was missing. I noticed this before I made the hasty study of the varying shades of his countenance, which observation was probably due to the presence in my mind of what might be termed commercialism. When I speak of commercialism I mean that force which, if not properly controlled, will get so hopelessly scrambled with our ethics.

The young man's selfpossession was deeply disturbed. In confusion he inserted his index finger in his vest pocket and took therefrom the missing tooth. I did not ask how it happened; the storm clouds on his face conveyed to me the information more plainly than could words.

I seated him in the operating chair and in the course of a few minutes he gave me the details which led up to the loss of the lateral incisor.

It seemed that since his previous visit, he had, through frugality and inheritance, become the owner of a tract of land. The correct location of

one of the surrounding fences was in dispute, and in the effort to straighten the matter out with his neighbor he had overlooked the majesty of the law and its innumerable avenues for the absorption of wealth in the settlement of such cases, and had made use of more convenient and primeval methods at hand which resulted in his present disfigurement.

With deep interest I examined the crowned tooth. The crown fitted splendidly. I was proud of it; that is as proud as a man ever is of a gold crown on an anterior tooth. Cautiously I examined the apex of the tooth and I was delighted to note that at the very end of the root, beautifully rounding out the apex was the tip of a pink guttapercha point, placed with painstaking care exactly where the college professors taught us they should be placed.

This was the first root canal filling operation of my own that I had ever had the privilege of examining under such favorable conditions and it was highly gratifying to me, if not to my patient.

Just how many root canals I have filled so well, I shall never know. Perhaps the lack of this information will add years to my life and mayhap, happiness to the years. However, as time has passed and my opportunities for observation have increased, I have been deeply impressed with the fact that the roots of our treated teeth, like our interproximal spaces, cover a multitude of short comings.

After making this confession, which I trust will prove adequate for the most critical minds, I want to discuss briefly the substance of a paper read by Henry L. Ulrich, M. D., before the Minnesota Academy of Medicine, and later published in the *Journal-Lancet*, November, 1915.

I have no hope or desire to add to or detract from the value of the paper; neither shall I endeavor to corroborate nor contradict any of the statements made there-in, my object in discussing it being none other than to get the matter before the readers of the DIGEST and making such comments as my experience and observation as a practising dentist have taught me.

The paper is entitled "Streptococcicosis." The author, taking all responsibility for the terminology and giving a number of reasons for so doing.

The two main factors which the writer states he wishes to bring out in the study are, "The diversity of clinical manifestations of 'streptococcal focal diseases,' and 'The significance of the blind apical abscess in' streptococcal focal diseases."

Speaking of the doctrine of focal infections the writer states that, "It is the tremendous extent of distribution, its adaptability to a variety of foci, its protean clinical manifestations, which have given the streptococcus this important distinction. "Another very important fact coexisting with this doctrine is the splendid demonstration of the laws of

mutation, virulence, and selective actions which these mutants exercise in establishing foci.

It would seem that these foci of infection are established without regard for race, color or location, being found in all the organs more or less, including the tonsils, ulcers of the stomach and the appendix and "last but not least in importance, the blind abscesses at the roots of devitalized teeth."

"The root abscess," continues the writer, "is far more important, far more significant, than has heretofore been realized. If it were possible to tabulate all the foci outside the respiratory tract, or rather outside the tonsils, the root abscesses of devitalized teeth would lead the list by a large majority."

"Fifty cases in which blind apical abscesses were present, the cultures of which abscesses gave types of streptococci, were analysed as to age, sex and clinical findings."

The author groups these fifty cases into five groups and two sub-groups three of which I will use for illustration.

1. Rheumatoid group (24 cases).
2. Cardiovascular group (5 cases).
3. Asthenic group (11 cases).

Speaking of the clinical pathogenicity in group 1 the author states, "There were several instances in which no results were obtained by the removal of the tonsils alone. Not until the dental lesions were destroyed was there prompt restitution. Other cases reported the removal of the tonsils and all other foci except the mouth foci. The reduction of these again gave quick response. The use of vaccines prepared from bacteria prepared from apical lesions, gave focal reactions, which is abundant proof of specificity. In some instances the removal of some of the foci of the mouth gave partial relief. On removal of all foci in the mouth, including teeth of a suspicious appearance, complete and permanent results were obtained."

In discussing group 2 the author states that, "The proliferation action of streptococci on vascular endothelium may well give rise to a form of endarteritis resulting in general sclerosis with or without subsequent hypertension."

I quote also the following in regard to group 2 "The value of the skiagraph of the mouth in establishing an additional or remaining depot of focal infection in streptococcal disease is unquestioned. The apical abscess may be the only focus left, the evacuation of which will permit of the re-establishment of renewed integrity of all parts.

"It may hold the balance of power in the struggle of the body for complete sterilization."

The writer then quotes some figures founded on his investigations which are both interesting and appalling to the dental profession.

After examining the röntgenographic films of 387 cases in which 997 teeth came under suspicion, he deducts the following. "By conservative interpretation, 737 root abscesses were seen. There were present 806 artificially devitalized teeth, of these 545 had blind abscesses at the tip of the roots, and 191 abscesses were present on teeth devitalized either by accident or pulp destruction by caries." About the only consolatory feature of these figures is, that the dental profession was not apparently responsible for the 191 abscesses that resulted from caries and accident.

It occurs to me that it would require further study and a closer analysis of the cases examined to prove that our best efforts in the matter of root canal filling are wrought with such calamitous failure and with such possible deleterious effects on the health of our clientele.

It is a well known fact that certain practitioners follow out with varying degrees of effort and sincerity, certain methods of pulp devitalization and root canal treatment.

For instance, we have those who adhere to the chloro-percha and gutta percha point method of root canal filling under the protection of the rubber dam and various antiseptic agents; again we have those operators whose proud boast is that they have not had a roll of rubber dam in their office for a number of years and have treated teeth continuously.

There are also a vast number of operators who use the various mummifying agents, with and without the use of the rubber dam.

The pressure anesthesia method of pulp removal has a host of adherents who are more or less skilled in the removal of pulp débris without the rubber dam.

Others are as equally enthusiastic about the use of medicated pastes and mixtures of medicinal agents for root canal fillings.

The writer knows of several offices where hundreds of teeth are treated every month and no attempt whatever is made to remove the pulp or to fill the root canals.

The question that presents itself is, what method of treatment and root canal filling was made use of in the 737 root abscesses observed by Dr. Ulrich?

It is highly probable that this information could not be obtained from cases selected at random, but the information would be available if the cases of a single operator using a particular method were observed, and in this manner the best method could be arrived at, providing such a one exists.

Further elucidating the author continues, "The prevention of such abscesses entails a new dental attitude. It is my *impression* that in the

days when dentists removed pulpless teeth, the statistics of chronic rheumatoid conditions were much lower than to-day."

The only way in which this impression could be verified would be to produce the rheumatoid and dental statistics together with those covering the increase in population for a certain period which is in all probability more difficult than to fill correctly, a root canal.

"Chronic rheumatoid conditions are decidedly on the increase and I attribute it to the prevalent custom of dentists to save teeth," continues the writer. If this attribution proves true it will necessarily revise the teachings of both medicine and dentistry in the matter of the preservation of the teeth.

After stating that the apical abscess in his opinion is hematogenous in origin, and that "The devitalization of teeth, which entails the destruction of nerve and blood supply to the apex and contiguous bone areas, produces a locus resistentiae minoris, with lowered oxygen pressure, thereby creating an ideal nidus for streptococcal growth. We are compelled by the logic of the situation to condemn all efforts at devitalization by dentists, and strongly to urge extraction of teeth which need removal of pulp."

He then cites the findings of Drs. Best and Davis who oppose this view, and who collected 135 cases where the root canal fillings were done by "other dentists." They reported 128 defective root canal fillings with 103 abscesses. It is perhaps needless to here remark that had these investigative gentlemen collected cases from among their own clientele, their contribution to dentistry would have probably been of much more value.

We would have at least known the method of root canal filling employed and might have been a little nearer the solution of the problem. As it is, their investigations only go to prove that the correct filling of a root canal by "other dentists" is merely an accident and that 25 out of 128 defective root canal fillings were not abscessed, which should at least lead us to believe that not all our efforts along this line result in failure.

There is no questioning the fact that Dr. Ulrich has thrown a bomb into the quietude and prosperity of our professional citadel which calls for some very thorough and painstaking investigation on our part, the ultimate outcome of which will be watched with deep interest by the medical as well as the dental profession.

POSTPONED ARTICLES

It has been necessary to postpone the installments of Mr. Supplee's and Dr. Spies' articles until the May issue. —THE EDITOR.

SUGAR AND ITS EFFECT UPON THE TEETH

By John S. Engs, D.D.S., Oakland, Cal.

(*Concluded from March issue*)

LIME, MAGNESIUM AND PHOSPHORUS

Before going farther perhaps it would be well to explain that lime like all other elements of our foods, is held in solution in the blood which carries it to all parts of the body. The insoluble calcium phosphate is believed to be absorbed by the blood in the same loose chemical combination with a protein that is found before absorption in the casein of milk and the yolk of an egg. According to Bunge the casein and caseinogen of cow's milk contain more lime to the litre than does lime water. "Little is known" he says, "regarding the form in which calcium exists in food materials and at present differentiation between the different groups of calcium compound eaten cannot be made. Metabolism experiments indicate that a healthy man, accustomed to a full diet requires about 0.7 grams of calcium oxide per day for equilibrium." Experimental dietary studies have shown that it is entirely feasible to increase largely the calcium and phosphorus intake by a more liberal use of milk in the dietary. The same may be said of various milk products in which the calcium and phosphorus products are largely or wholly retained, such for example as junket, koumiss, buttermilk or cream. Calcium, magnesium and phosphorus in proper combination and in sufficient quantity are absolutely essential to the formation of good bones and teeth. It is important that the normal amount of calcium and magnesium salts should be absorbed by the growing organism during infancy and childhood, when the skeleton is growing rapidly. The absence of sufficient fat in the food, and also it is believed, the presence of a greatly excessive amount, tends to deprive the growing body of its normal supply of calcium and magnesium salts, and is one of the factors in the production of nutritional disorders. Phosphorus, like calcium, is an important constituent of the bones of the active tissues and also of the body fluids. Calcium phosphate is the chief mineral ingredient of the bones, and is supposed to constitute about three-fourths of the entire ash of the body. It is essential for the growth of new tissues that phosphorus should be stored as well as nitrogen. The importance of phosphorus as building material is strikingly illustrated by nature, in the way she provides milk rich in that substance to the young of rapidly growing animals. Not only do these salts enter into the structure of bones and teeth, but their presence in sufficient quantity in other tissues is absolutely essential, to insure the

normal functional activities of the most important organs of the body, particularly the heart. So we see that anything tending to reduce the normal amount of these three substances available in the blood stream not only has a detrimental influence upon the osseous system of the body, but is also likely to have its effect upon the very seat of vitality itself.

ITS AFFINITY FOR LIME

Someone has said that refined sugar possesses a strong affinity for lime, and when present in large quantity in solution in the blood stream, it causes a reduction in the available lime in the blood by combining with it to form sucrates of lime, so that if food containing sufficient lime is not taken with our daily meals to maintain the proper balance, the blood to preserve that balance is forced to extract it from that supply which is stored up in the bones and teeth thus weakening their structure. This seems quite plausible, though it is not what we may call a scientific statement; nor does it satisfy the minds of deeper thinkers. It has also been suggested that the blood may become supersaturated with the sugar in solution that is consumed in excess of the body needs, and that the blood being thus surcharged has no room for other food elements required by the tissues, consequently they are starved. That the teeth can be thus affected will entail the belief that nourishment of the teeth goes on after they are fully formed—a fact that some of the more eminent educators like Black, deny.

METABOLISM IN DENTIN

The word metabolism is used to designate both that building up and breaking down of tissue which biologists express respectively by the terms anabolism and catabolism. Prof. Torrey of Reed College assures me that both processes go on together in all tissues. The catabolic are particularly obvious in old age, the anabolic particularly obvious in youth. He does not consider "old age a bacterial matter." It seems to him to be "a definitely metabolic affair; the balance shifting from a generally uphill to a generally downhill course." Having fairly good evidence of a constructive metabolism in those cases of hyperdentification that we frequently find upon examination of teeth subject to external stimuli—bearing in mind this fact, that both the building up process and the breaking down, are subject to influences that tend to throw the balance one way or the other, is it not probable that some such cause, as lack of proper nutrition, would be likely to shift the balance towards the breaking down side, and thus cause either decalcification or degeneration of tissue in the dentin?

That changes in the structure of dentin do occur in completely formed teeth, is shown in the hyperdentification that results from external stimu-

lation to which they are subjected for long periods of time. We do not know how or where the lime employed was obtained, suffice it to say, that some means of conveyance exists. I contend that if lime can be deposited in formed dentin, means for its removal are likewise possible, should the occasion arise.

Dr. Harvey W. Wiley in response to a letter from me, said amongst other things, "I am glad to note that the dentists of the country are beginning to understand that bad teeth are largely due to faults of metabolism, rather than exclusively to heredity and lack of care." He said also in a previous communication, "I do not believe that dentists can long hold to the fact that bacterial activities are the sole cause of dental decay. A condition of acidosis in the body would probably be more effective in causing decay of the teeth than bacterial activity."

In 1894 Dr. W. G. A. Bonwill read before the N. Y. Odontological Society a paper entitled "A New Era in Dental Practice." I quote from it—"Medical men can well ask for preventive medicine, for every honest M.D. soon learns to give less and less medicine,"—"We, as dentists have an entirely different field, for we have millions coming to us where no law of prevention can be applied. We can only save and restore the lost structure by our cunning and art." "But there is much that can be done to check caries in its very incipiency, and that without filling."

"If we must link ourselves at all with the medical men, let us emulate their example in one thing at least—anticipative medicine or as they have it, preventive medicine."

While it is true there are "millions coming to us," whose teeth have yielded so much to the ravages of decay that there seems no hope of saving them, yet, in the light of modern research and results obtained in the last few years, I think if we could have Dr. Bonwill with us today, he would not have to say, that "no law of prevention" can be applied to them.

If we can but bring ourselves to consider teeth in the same light that we do other tissues of the body, subject to structural change and under the influence of those centres that control nutrition, then I think we shall find a way and a means, to arrest decay in teeth already attacked, and to prevent it by care in the selection of food for our growing children, seeing to it that their food furnishes all the necessary tooth building elements, calcium, phosphorus and magnesium in particular, which are found in available form in milk, greens (fresh or cooked), vegetables of all kinds, the unprocessed cereals and fruits and substituting these for sugar, white bread and cake.

Encourage the manufacturers to produce pure, unadulterated food

preparations, by personally demanding them of your dealer in preference to the ready cooked, ready chewed and predigested truck that is made for lazy people.

If we suffer from tooth decay or any ailment of the teeth either we or our parents are largely to blame, nine times out of ten. We are given teeth to use in masticating our food, not entirely for ornament, and many of us have forgotten how or have never learned to use them. We have glands that secrete digestive juices but no time is given those juices to act, food is washed down into the stomach by a deluge of liquid taken after each mouthful of food before it is properly broken up and mixed with the saliva.

An extra burden is thus thrust upon the stomach, and semi-digested food lies fermenting in the bowels giving off poisonous elements that little by little lay the foundation for our old acquaintance, pyorrhoea alveolaris.

A TECHNIQUE OF NATURAL TOOTH BLEACHING IN THE MOUTH

By Louis Englander, D.D.S., Philadelphia, Pa.

The restoration and maintenance of a natural live tooth appearance in a discolored, devitalized tooth is a procedure which has been overlooked to a large degree by the dental practitioner.

Esthetically, to keep a tooth life-like is a necessity. Especially is this true of the anterior teeth. Upon it depends in a large measure, the success of a porcelain inlay or a synthetic filling. Dentists hesitate to attempt the bleaching of the teeth, believing that it is only temporary and that the discoloration will return.

To know the cause of the discoloration will aid in the permanent restoration of the color. The enamel is composed almost entirely of inorganic matter and is translucent. It is the dentine which gives the shade or color to the teeth. The dentine is composed of a solid organic matrix containing a large percentage of inorganic matter. This is pierced by minute canals or tubules which radiate from a central cavity. The minute canals or dentinal tubules are occupied in life by protoplasmic processes from the odontoblastic cells which form the outer layer of the pulp. It is in these tubules that the discoloration occurs, and into which the bleaching agent must penetrate.

The discoloration of dentine is due to three causes; hemoglobin, me-

tallic and carious. When extirpating the pulp, especially if the tooth has been opened from the side or back, care must be taken that all of the horn of the pulp is removed. Any blood resulting from an apical hemorrhage and all carious débris must be thoroughly removed mechanically. After this has been accomplished, we may then enter upon the bleaching of the tooth.

As a bleaching agent, the writer has found that either Dioxygen or Perhydrol is the most convenient and satisfactory to use, and, if manipulated properly, success will result in all cases. In using Dioxygen place about one and one half fluid drams of the H_2O in a test tube and heat slowly over a small flame of a Bunsen burner, holding the test tube at an angle of about 30 degrees, and concentrate the fluid to about 10 minims. Some of this is then placed in the tooth cavity on a small pledget of cotton. Several blasts of hot air are blown upon it in the direction of the greatest discoloration. Repeat this operation two or three times. Where a compressed air blast is used, be very careful not to direct the hot blast against the enamel too long, as it will burn the enamel and produce a brown discoloration which cannot be removed. If the color is not restored at one sitting, place a pledget of cotton containing the concentrated H_2O_2 in the cavity and seal it up with temporary stopping or cement. Have the patient return in about five days and the improvement in color will be manifest. In case the restoration of shade has not been complete, repeat the operation. Three such treatments usually suffice.

Perhydrol (Merck) is about 30° H_2 O_2 by weight, and has the advantage over Dioxygen in that it can be applied without boiling. Should the Perhydrol become weaker through age, it can be boiled and the strength regained. In using either Dioxygen or Perhydrol, it is advisable to place the rubber dam over the tooth to be bleached, and also to be careful not to get any on the fingers, as these strong bleaching agents attack the tissues. Never apply either of these strong medicants to a vital tooth.

Now that the dead tissue in the dentinal tubules has been bleached, and the desired color restored, the tooth should be wiped out with alcohol, thoroughly dried, and a light yellow cement placed directly against the dentine, which will seal the tubules. For this I have found Harvard Cement No. 4 most suitable. The tooth can then be filled with whatever material desired.

I have cases under my observation which were treated in this manner more than eight years ago, and they still have the same live tooth appearance.

ADJUSTING OBTURATORS

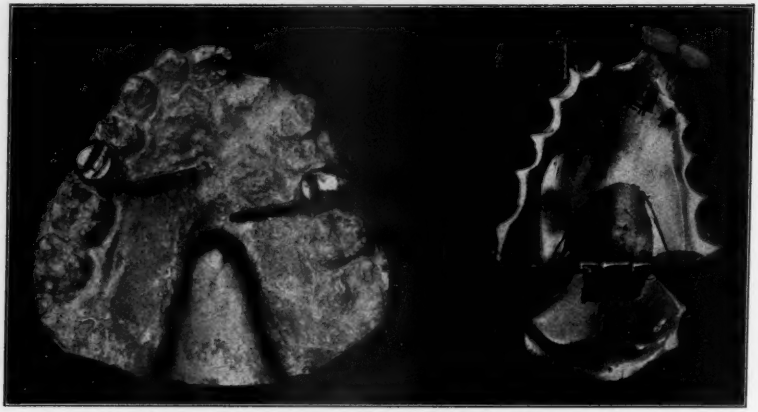
By J. E. Kurlander, D.D.S. and H. J. Jaulusz, D.D.S.
Cleveland, O.

In making and adjusting obturators to remedy the inconvenience of patients afflicted with cleft palate, not only should the dentist know the history of the patient and the causes which bring about this condition, but by careful study of the case in hand he should form some idea of the part which the five pairs of muscles controlling these parts play in their impaired physiological functions. These muscles as well as those of the tongue, the hyoid bone and the pharnyx, take part in deglutition, preventing the food from passing into the larynx and nasal cavity and in forcing the same into the œsophagus in the act of swallowing.

Illus. No. 1. Impression of cleft in plaster

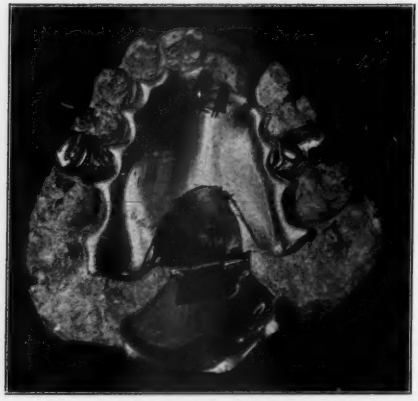
Cleft palate may be divided into two classes, namely, congenital and acquired. The first or congenital is brought about either from deficiency in the supply of lime salts to the maxillae of the fœtus, thereby producing malformation of the parts and *that* in the absence of any diseased condition brought about by syphilitic taint on the part of the parents. Acquired cleft palate is brought about by wounds inflicted on the parts, as well as from numerous other causes. In the case under consideration, the cleft in the palate was due to hereditary syphilis.

The patient, a young man 22 years of age, came to me with a V-shaped cleft which widened posterially, the uvula and about two-thirds of the palate processes of the superior maxillae being absent. His speech was so indistinct that it was with difficulty that he could be understood when talking, the sound passing through the nose. He was also greatly annoyed by food passing through the cleft into the nasal fossae during mastication and deglutition.



Illus. No. 2. Gold crowns adjusted to the two superior bicuspids with platinum posts soldered on

Illus. No. 3. Side view of obturator, showing hinge



Illus No. 4. View of plaster model with obturator in place

I first took an impression of the cleft in plaster; removing this I filled the cleft with soft wax and took a plaster impression of the mouth. Having taken these two impressions, I made and adjusted gold crowns to the two superior second bicuspids—to the palatine surface of each of which a platinum post about an inch in length was soldered. Taking another impression with the crowns adjusted, I made a model of same and casting an aluminum plate formed grooves in the palatine surface of it, in which the posts on the crowns would fit, and which helped to support the plate in position.

I next made an extension to the plate to fill in the cleft posterior to it and to substitute the absent uvula, making the same of aluminum, which was also cast. I made a gold hinge, one-half of which was vulcanized to the heel of the plate and the other half to the anterior edge of the extension. On the anterior palatine edge of the extension was a projection of aluminum, which when the plate and the extension was in the mouth, caught on the end of the gold post which was vulcanized to the palatine surface of the heel of the plate, and thereby prevented the forcing of the extension by the muscles too far into the post nasal vault. The protection which this applicance when in position afforded the patient in mastication and deglutition were complete, and his speech was so greatly corrected that he could be plainly understood when talking, and he was transformed from the village fool, as he was called, to a man whose speech was so fully corrected as to render any impediment in it scarcely noticeable.

2496 E. 9th St.

THINGS THAT ARE SAID IN DENTAL JOURNALS

By Hillel Feldman, D.D.S., Bronx, N. Y.

It seems there is no limit to the things that some professional men can get themselves to say in a Dental Journal.

In the January issue of the Dental Digest "W.B.B." asks "what is the best thing to do for a child three years old who breathes through the mouth nights and snores as loud as an adult?"

In the February issue followed a short note in answer to "W.B.B." from the pen of "Levi C. Taylor" which is the cause of my writing this.

The February correspondent gives "W.B.B." the very elegant counsel of binding the child's lips with adhesive plaster, "tight," so that the child will be compelled to breathe through the nose! Presto! Doesn't that solve the question? Truly "the pen is mightier than the sword"!

(Why not melt paraffine over the adhesive plaster so as to make an hermetical seal out of the operation?) In the morning, behold, Levi C. Taylor says "you remove the adhesive plaster by taking hold of one corner." Isn't that an advance in scientific research?

I sometimes wonder why the medical professional holds in such light esteem the members of the dental profession. How, pray, can I censure them when they read such edifying epistles from dentists as the reply to "W.B.B."?

If W.B.B.'s patient breathes through the mouth at night, a good rhinologist should be consulted. The latter may find it necessary to further invite into the consultation, an orthodontist. I am sure it is a simple physical defect that can be remedied. But until it is remedied the child's breathing should not be interfered with by any such outlandish methods as plastering up the mouth. Breathing through the mouth is not a voluntary, acquired, habit, but rather a condition forced upon individuals by physical imperfection of the naso-pharynx, constriction of the anterior nares with attendant constriction of the bones of the anterior area of the face, or from deflected nasal septum, to say nothing of the presence of adenoid growths in the posterior passages.

HARTFORD MEN CONTRIBUTE TO FORSYTH LOVING CUP

In an editorial in the *Oral Hygiene* magazine, edited by W. W. Belcher, D.D.S., of Rochester, an article appeared asking that all dentists send not over 25 cents for the purchase of a loving cup to be presented to Thomas A. Forsyth, as a testimonial of the esteem in which he was held by the dentists.

A list of the dentists in Hartford was prepared and presented to each as far as known. If all the dentists in our different cities and towns respond as quickly and in such numbers as the city of Hartford, the loving cup will certainly be presented to Dr. Forsyth very shortly.

Editor DENTAL DIGEST:

Can any of your readers give a remedy for a baby sucking her lips?

J. S.

Editor DENTAL DIGEST:

Will some of your readers please give a formula for cleaning impression trays?

PERPLEXED.

NEW METHOD OF CONSTRUCTING FULL DENTURES

By Clyde Davis, D.D.S., Lincoln, Nebraska

I have a method which I wish to give the dental profession for its consideration, of constructing a full denture, either single or double, that I have never read of and I believe the idea or the application of the idea is original. I have tried it out in our infirmary and proven that it is possible to get suction for all plates, both upper and lower, in every instance where the mouth approaches normal.

Stated in a nutshell, the method involves the complete abandonment of the model of the mouth and the plate is vulcanized on a cast which is the negative of an adhering base plate. Given as briefly as possible the method is as follows.

An impression is taken of the mouth and the cast made, which should be somewhere near correct, but it is not necessary to take any great pains with it. It should give the outline of the completed plate and partially represent the conditions of the mouth. In fact, in some instances even this is not necessary provided you have a dummy cast of plaster, metal or celluloid, which is somewhere near the size of the mouth, but should be a trifle larger in every direction. Having secured an approximately correct model a specially prepared base plate which is very thin and when warm is very pliable, is readily shaped over this model. This base plate will probably not show suction when placed in the mouth and pressed to position. If it is far wrong, take it out, warm it over a flame and press to place in the mouth. As soon as a little suction begins to show up, instruct the patient to keep the mouth closed and suck the plate as tightly as possible. The warmth of the mouth will change this until close adaption results and strong suction will appear. This may be assisted by manipulating with the fingers and it is particularly necessary with the trial base plate on the lower jaw. When this suction has been secured it will be found that this trial plate will not fit the original cast even though it is a perfect model of the mouth. It will be found that no impression of the mouth can be taken which this adhering base plate will fit, which proves my contention of the past twenty years, that a plate made from a perfect cast of the mouth seldom has adhesion. I have always spoiled my casts up to this time in order to get adhesion. Now I am asking you to throw them away altogether.

Coming back to the case where you have one or both adhering trial base plates in the mouth, I then take the bite in the usual way for that kind of a case using the built up bite on these base plates. Plaster of Paris is then mixed up ready for use and the trial plates hastily removed

from the mouth and filled with plaster. These are then mounted on the articulator and the case proceeds in the usual way. In these casts which are poured up you have the negative of an adhering base plate which is by no means a model of the mouth. Every plate made by this method, both upper and lower, adheres as would the trial base plates. This method of making an adhering denture without vulcanizing on a cast of the mouth has many side issues which I haven't time to go into at present. Suffice it to say that by this method we can construct a denture, if necessary, without having taken an impression of the mouth, using an approximate dummy to start the shape of the base plate, completing its form in the mouth assisted by the body temperature which must slightly affect the specially prepared base plate. The plaster which is poured into these adhering base plates should be a little below body temperature in order that they may not give and change shape under the weight of the poured in model. The base plates should be given a thin coat of quickly drying ether varnish, before pouring the plaster and then painted over with a very thin solution of soap. This gives a smooth cast and the base plate by warming can be easily removed from the cast. This matter can be tested out by anyone if they will try the base plate back in the mouth after it has been removed from this cast and it will be found that the adhesion is still there. If you will take the base plate and warm it and place in over the original cast of the mouth and press it into place and then try it in the mouth, it will be found that the adhesion has been destroyed. Allow this base plate to remain in the mouth and get warm, and adhesion again takes place. Taking it out of the mouth it will be found to fit the cast which has been poured into the base plate and does not fit the cast of the mouth.

You will see more about this method later on.

UNIVERSITY OF NEBRASKA

CARE AND USE OF THE TOOTH BRUSH

Pour boiling water on your brush occasionally. Keep it in a large mouth bottle in which you have a saturated solution of boric acid Make new solution once a week. Request your patients to bring their brushes to the office with them and you take the brush, holding it properly in your own hand, and brush their teeth. You can teach them the correct use of the brush no other way so well. Be very sure you are capable of teaching this important truth. It is an acknowledged fact that improper use of the brush is but little better, if any, than no use at all.

J. M. PRIME.

INDICTMENT AGAINST DENTIST QUASHED

(*Federal*) The vigilance of the government in putting an end to the drug traffic in the United States is presented in a large variety of recent cases. Among them the case of United States *v.* Freedman stands out prominently. Defendant Freedman, a dentist was indicted for having dispensed morphine sulphate in other than the regular course of his professional practice, that is to say he used the drug in quantities more than was necessary for a patient's use.

The defense interposed was that the law contained no language governing the question of necessary quantity. The law in specific terms enumerates the requirements imposed on those who handle the drug in making a sale, such as filing a duplicate with the Commissioner of Internal Revenue, etc., but nothing is said with relation to selling or using the drugs in quantities more than necessary to meet the needs of a patient.

The court quashed the charges against the defendant. Quoting the court, Judge McCall said: "I fail to find in the act of Congress under examination any language making the doing of the things with which the defendant is charged a violation of law. In other words, there is no limit fixed to the amount of said drugs that a physician, druggist or dentist may prescribe, nor is there any duty imposed upon him, and the name and address of the patient, except those to whom he may personally administer, and that he must preserve the records of two years. For failing to do either of these things he is not indicted." The indictment was quashed. (United States *v.* Freedman, *224* Fed. *276.*)

EXCLUSION OF POISON FROM MAILS

(*Federal*) Post Office Department Order No. 2923 by the Postmaster General prohibiting the mailing of poisonous compositions except for transmission in the domestic mails from manufacturer or dealer to licensed physicians, surgeons, pharmacists, and dentists, held invalid, as beyond the jurisdiction of the Postmaster General. (Bruce *v.* United States, 120 C. C. A. 370.)

VETERINARY DENTISTS AMENABLE TO THE GENERAL DENTAL LAWS

(*North Dakota*) The North Dakota Supreme Court has, by a recent decision, held veterinary dentists to be subject to the North Dakota Laws having application to other dentists. It is quite clear that the legislative intent was to afford to animals the same degree of surgical skill as is by the state dental laws guaranteed to man. The defendant in State *v.* Ramsey was convicted in the County Court of Cass County of the crime of wilfully and unlawfully practising veterinary dentistry with-

out a license. He was a student under a Doctor Milan. It seems that defendant performed all dental work under Doctor Milan, doing the mechanical work such as extracting teeth and filling them.

Defendant's contention was that he was immune from the law in view of the fact that he was not engaged in the profession of dentistry as commonly understood but in the profession of veterinary dentistry and that as the law makes no specific reference to veterinary dentistry it was not intended to have any application to such profession.

The defendant was convicted in the trial court it having been held that he was subject to the general dental laws. On appeal, the Supreme Court affirmed the holding of the lower court. (State *v.* Ramsey, 154 N. W. 732.)

FRAUD ON MEDICAL EXAMINERS PUNISHABLE

(*Iowa*) The Iowa Code provides that any person who shall present to the board of medical examiners a fraudulent or false diploma, or one of which he is not the rightful owner, for the purpose of securing a certificate permitting him to practise medicine or dentistry or shall file or attempt to file with the county recorder the certificate of another as his own, or who shall falsely personate any one to whom a certificate has been granted, or who shall practise medicine, surgery, or obstetrics or dentistry without obtaining and filing the required certificate, or who continues to so practise after the revocation of his certificate, shall be guilty of a misdemeanor.

Under this law one Charles Edmund was indicted for having loaned his certificate to a fellow named McAninch. McAninch proposed to practise under such certificate. Edmund and McAninch were both tried and convicted in the same trial. This Edmund claimed to be error on the part of the trial court. The Supreme Court on reviewing the case however held that such procedure was regular. (State *v.* Edmund, 154 N. W. 473.)

LICENSE LAW CONSTITUTIONAL

(*Wisconsin*) The statute providing for the licensing of all persons practising medicine, surgery, dentistry or osteopathy for fee or compensation and imposing a fine for practising without a license is constitutional and within the legislative power. (Arnold *v.* Schmidt, 143 N. W. 1055.)

SELLING MORPHINE WITHOUT PRESCRIPTION

(*Georgia*) One who sells morphine not on the order of a licensed physician, dentist, or veterinary surgeon, is guilty of a misdemeanor, whether he is the proprietor of the drug store, or merely the employee of such proprietor. (Oppenheim *v.* State, 77 S. E. 652.)

FIRST UNIVERSITY DENTAL SCHOOL IN NEW YORK FOR COLUMBIA

Dental Course to be Allied with College of Physicians and Surgeons

Realizing the importance of the teeth and mouth infections to systemic disease, the Faculty of the College of Physicians and Surgeons have unanimously voted in favor of the establishment of a dental department, to be connected with the medical school. A committee of prominent dentists of the city have presented plans to the Medical Faculty which have been approved.

The school of dentistry will be closely associated with the medical school and the admission requirements will be the same as the medical. The course will be four years, the first two years the same as those in medicine, thus giving the dental student a thorough knowledge of the fundamental sciences necessary to the practice of a specialty of medicine. At the end of the second year the dental student will give all his time to the study of dental subjects, namely, operative dentistry, prosthetic dentistry, oral surgery and oral pathology, orthodontia, etc., and the more technical part of the work required for the well trained dental surgeon. This new school will be the first university dental school in New York City and the second in the State. It will give the first four year course of dentistry ever given in the Empire State.

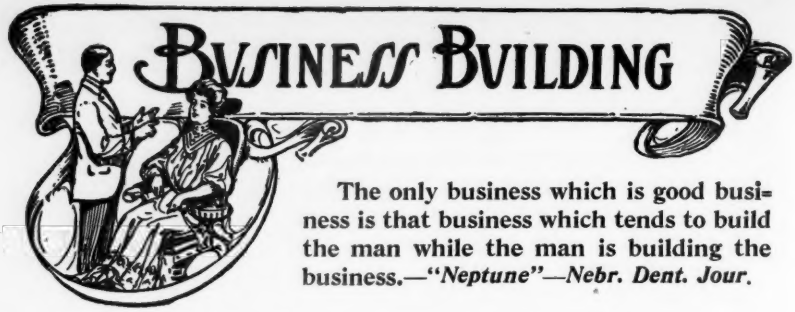
DR. WILLIAMS NEEDS TEETH

In the course of our studies in tooth form, we have need of a good many natural anterior teeth, not decayed to an extent which destroys the form.

If you have any such and wish to aid Dr. Williams in his work for the benefit of the whole profession, will you not please forward them to Dr. J. Leon Williams, in my care? I will gladly pay the express charges or refund any postage you may pay.

The importance of this request is seen when it is remembered that it was such a contribution of teeth from Dr. Friesell, that enabled Dr. Williams to put his discovery of typal forms into definite terms.

George Wood Clapp.



The only business which is good business is that business which tends to build the man while the man is building the business.—*"Neptune"—Nebr. Dent. Jour.*

WHAT SHALL WE CHARGE FOR PLATES?

By W. J. Holroyd, D.D.S., Pittsburgh, Pa.

Whoever shows us what it costs us to render professional service, benefits each of us who is not doing himself justice and each patient who is not receiving justice in the form of adequate service.

A long study of this subject of patients, service and fees, has convinced me that when dentists are sufficiently paid to permit them to do their best for each patient, we shall see such a wave of technical advancement as no generation of dentists has yet witnessed. Here and there a man is divining his opportunities and rising to his possibilities. Acquaintance with several such cases shows that the patients are even more delighted with the results of such a course than are the dentists with the increased income.

Dr. Holroyd's figures deal in a practical way with one phase of service which greatly needs such treatment. Answer him if you wish, but first time yourself on work well done, that you may know whereof you speak. —Editor.

FOREWORD

From a high authority—President Pritchett, of the Carnegie Foundation—we learn that the medical profession scarcely pays now, and tends to pay even less. "It is becoming more and more a profession to which men give themselves from ideals of public service, recognizing that the average practitioner is to obtain little more than a comfortable living, and in many cases not even that. The parent who seeks for his son a remunerative occupation should look elsewhere."

Everybody knows that teaching does not pay and preaching pays still less, while literature—if you measure the total bulk of the time expended against the gross receipts—represents a positive deficit. There remains the law, in which a sufficiently agile youth may now and then overtake a fortune, but the grand prizes are few and the average income is about equal to that of a good carpenter.

Dentistry may be classed with the above.

Thus, of the old professions, none pay. A diligent and skilful man may make a comfortable living and keep up the premiums on his life insurance. Why then do practitioners of the learned profession persist

in trying to make them pay? How much they might simplify professional life by going in frankly for "ideals of public service" with a reasonable pension! Probably there are more furtive Socialists among professional men than professed ones among workingmen.

So much for Prof. Pritchett.

From the above it would seem that the men in the professions have not a very desirable financial outlook for the future. It does not behoove dentists to stay dormant, but to agitate a movement wherein such conditions may be remedied. We cannot pretend to do it in the other professions, but we can help our own to a very material extent—treat it as merchants treat bad conditions in their business—by analysis, contrast, and comparison. We can get at the cause and then outline a policy that will bring order out of chaos.

The habit of "Studying the Cost of Conducting a Business," is going on all over the country. It is only right that we dentists should fall in line and study our own profession, with a view of securing for ourselves proper remuneration, because if we don't we shall go to the wall. A man is more sure of himself, and has more confidence and poise in quoting prices, if he knows what he is talking about. A man who has "timed" himself on different operations knows *why* he is asking a higher price for work than the dentist who charges a certain price for no other reason than that it is the custom. Considering that a dentist of 10 years' standing is only averaging $1,250, *net* income per year and the cost of living still going higher, a *thinking* dentist realizes that something must be done, in order to hold his footing among men of the same standing in other vocations.

There has been an awakening all over the country among the dentists, in regard to the right minimum prices of different pieces of work manufactured by the dentist and an earnest demand for authentic data to work from has been vigorously solicited.

Dentists want to know. There are now some live men in the profession and they are no longer content with just making no better living than a carpenter, a bricklayer, or a draughtsman. Considering that they have spent so much money and time for their education and have more responsibility, being dentist, educator, salesman, and bookkeeper, they are justified in wanting more remuneration than the artisan whose responsibility is shouldered by his employer.

Dentists have a right to know what fees they are entitled to and until they do, dentistry will not stand where it belongs, for in order to attract the best brains to it, it must also be possible for a man to make something more than a living.

Only 1 per cent. of the men in our profession to-day are highly schooled. Why should a business man who has gotten along to where he can afford to send his boy to common school, high school, preparatory school and then college, let that same boy after all that education, take up a profession that yields approximately only $125 a month after being 10 years in business. You would not let one of your own boys do it. You would say yourself, "No son, after all that schooling, you must take up something that will yield better returns." Thus we have an instance of a highly cultivated brain being lost to the profession. In a Yale graduating class of 300 or more—160 proposed to be lawyers; the rest were divided between medicine, architecture, engineers, etc.; not one of the whole class said he would take up dentistry. True, some dentists have made signal financial success without business education, but they did it in spite of non-education, not because of it. How infinitely better might they have been had they had that education. We all regret it. Therefore we must get better remuneration for our work, if we would get this class of man into the profession.

Times are changing more rapidly now than ten years ago and dentistry is also changing very rapidly. The average dentist cannot keep up with it. It costs **every** dentist **more to-day to conduct business than 10 years ago and still his prices for work remain the same,** and he has to do more work to make it up. Right there he is going back—out of date. Therefore, we are going to show him how he may help himself.

Remember these words throughout all of this article—Contrast and Comparison—everything is governed by it. If a man were on an island and he had no one to compare himself with, he would not know whether he were stout or thin, long or short, strong or weak, fast or slow. We don't know whether a building is tall until we compare it with another, or whether our salary is large or small unless compared with someone else, and so on down the list. The world is governed by contrast and comparison a thousand times a day. They are all about us and men use them constantly in the day's work—that is, all men but dentists. It does not seem to have entered their craniums as yet.

We are going to contrast the wearing value and prices of our work, with the value and price of other goods tendered by merchants, weighing service for service. Contrast the following:

If a patient pays $30 for a suit and it wears for one season, why should he expect your $30 piece of work to last 10 years.

If you buy two pairs of shoes at $5 a pair and they last one year, why can't you ask $10 for a good gold crown, lasting 10 years?

If a workingman pays 50 cents for a theatre ticket, for one night, he can afford to pay $3 for a good amalgam filling, lasting 10 years.

If a lady in ordinary circumstances can afford to pay $75 for a medium class set of furs, which she only wears a few hours per week for four months a year, she can afford to pay $60 for good, well articulated, carefully made dentures, which she wears all the time, and on which she will eat 10,000 meals in 10 years.

Contrast and Comparison—ponder it. Open your eyes.

According to Dun's report, the expense of living has gone up 50 per cent. in the last 10 years. This includes the living of dentists, also. That is, your $150 only goes as far now as $100 did 10 years ago, and if your prices in dentistry remain the same you have to work half as hard again to accomplish the same results, in a given time as you did 10 years ago. Think about this.

Even if you had raised your prices 50 per cent. that $5 crown to $7.50, $15 plates to $22.50, 50 cent extractions to 75 cents, and so on, you would only be in the same position as you were 10 years ago, and not advancing any. As it is you charge the same prices and have to work half as hard again and then you just stay in the same place. No gain as your reward. In fact you are going back, because you cannot **save** anything and are getting **older.**

Let me give an instance in our own profession by comparing some of the expenses of two offices of 10 years ago and to-day.

1902		1912	
		Rents	33 % more
Telephone	None	Telephone	$ 50 per yr.
Office girl	$ 5 per wk.	Office girl	8 per wk.
Foot engine	36	Electric engine	150
Foot lathe	16	Electric lathe	35
Brass cuspidor	3.50	Fountain cuspidor	40
Dental chair	125	Dental chair	185
Cabinets	60	Cabinets	150
Foot Bellows	5	Compressor	12
Porcelain furnace	None	Porcelain Furnace	100
Switchboard	None	Switchboard with appliances	250
Typewriter	None	Typewriter	100

And so on ad infinitum. The list could be made much longer, but the above is enough for example. In the office described in the first column, such equipment was not looked upon askance 10 years ago, but woe betide the up-to-date man of to-day who has not the articles in the second column. He cannot claim to be up-to-date if he hasn't them, as they are now necessities. But few men have them, because most men can't afford them. The prices gotten in their practices do not justify the outlay. They haven't any money left. Some dentists are up-to-date enough to go to conventions, where the Dental Manufacturers have their exhibits and look with envy upon the new appliances designed by experts in the profession. They would like to bring their offices up to date, yet they keep on plodding at their work in the old way, never dreaming that

they can alter their patients' viewpoint just as other merchants have altered their patrons' viewpoint.

Remember the merchants have spent thousands of dollars educating people to understand, appreciate and follow the styles. There used to be summer and winter clothes—we all remember them. Now, there are four seasons and they have even stopped the ladies from interchanging their dresses—they have now to dress in "tones." **This "education" includes dentists' wives.**

FOR DENTISTS

Financial success is all a matter of educating the patient and studying costs, and raising prices so you can buy these new labor saving appliances and become up to date. Remember that the manufacturer is the man who places the price on everything in your office. You were told the price and you paid or left it. But the majority of dentists allow their patients to quote the price of work. We are not salesmen, just mere order takers. Patients say the price is too much and we cut the price to suit their pocketbooks—in the face of the fact that they are paying other manufacturers $1 where we get 25 cents.

Now it has been proven that to maintain an office as above (2nd column) and constantly keep in touch with new improvements, takes 50 cents on the dollar of gross receipts at present average prices, before the dentist has anything left for himself. To make a larger percentage on the dollar, he will have to charge more all along the line for his work. To do this intelligently he will have to go to the trouble of "timing" himself during different operations. If he does that, he will not need any one to beg him to change his viewpoint.

All business men and manufacturers put a price on their product, based on *quality* of *labor* and the *time* it takes, and no trouble is too great that enables them to get results. They sit up nights and have meetings and call in cost experts to help them. This brings us to the analysis of the heading of this paper.

What should we conscientiously charge for plates—what should be the minimum price?

Some time ago, we sent broadcast to 35,000 dentists, through the Courtesy of *Oral Hygeine*, a time chart for plates, asking dentists to fill in the time required for the different steps and return to us for compilation and averaging. We have received a great deal of help and this article will give you the results. Although it emphatically demonstrates that the dentists need to be taught how to do things for their own good, some men must have thought the timing was intended to be a race—to see how quickly they could do a certain specified piece of work—and some

again have been very conservative and have gotten together a very fair average of "times."

The timing of operations means an average of many times (say 20), and when a man writes that he can paint an impression, pour model and mix his plaster right, so that it has no bubbles and every particle of plaster comes in contact with water in two minutes and then separate and build up trial base plate, according to the latest accepted standard, in *three* minutes, and at *this* rate make a whole upper denture in 1 hour, 47 minutes, then his records are not to be put down to average with other conservative men, who do the work more thoroughly. Such timing is not correct and it is a reflection on the compilers' intelligence to quote his figures in averaging.

The average time from more than 150 reliable statistics results as follows:

CHAIR TIME

Time consumed in making contract for plate:

Examination and consultation	30 minutes
Taking impression	15 "
Taking bite	20 "
Trial plate fitted	30 "
Fitting denture in mouth	15 "
There shows an average of 4 trips for plate to be adjusted, sometimes to be scraped and troubles at other times imaginary, but consuming time about 20 minutes each visit	80 "

LABORATORY TIME

Painting impression and pouring model	12 minutes
Separating and making trial base plate	20 "
Mounting on articulator	10 "
Selecting teeth	15 "
Articulating	46 "
Final waxing	25 "
Investing	20 "
Packing, putting in and taking from vulcanizer. (Does not include time for actual vulcanizing)	90 "
Scraping and polishing	60 "
	60)488 "
	8 hrs. 8 min.
Percentage of makeovers 25 per cent.	2 "
	10 "

These times are compiled from quite a number of dentists and prove that work can be averaged to such an extent that a basis of price can be arrived at. Remember, this sending out to 35,000 dentists for data was never done before, and proved quite a task and if any skeptics differ with any of the above statistics, I shall be glad to be corrected if they will go to the same amount of trouble.

Now if it takes 50 cents on the dollar to conduct an up-to-date office and if you only charge $20 for a plate and it takes you 10 hours to make it, you can readily see that it costs you $10 to make that plate, counting material and overhead expenses (which lots of dentists never think about), leaving practically $1 per hour for yourself, which sum a jobbing plumber demands when he comes to open your sink. A tile setter gets 62½ cents per hour. After spending your money and 3 years for education and taking all the responsibilities of business worries and building up your practice, ask yourself if you are not worth more than $1 per hour net. Some of the mechanics' wages are only a few cents less per hour and they have no overhead responsibility.

You might say the laboratory does a lot of it and it is really not your time. I can get a plate made for $3 and charge $15, that is $12 profit. This way of figuring is not right. Too many dentists figure that way. Overhead charges and running expenses must be put against the first price, and considering that the dentist is made responsible for any work that does not fit and any makeovers must come out of his own pocket, he must charge and receive the profit as if he had made the whole plate himself. **If the dentist has to stand the brunt of mistakes of other people whom he employs, he at least is entitled to the profits of their labor.** It is so all over the commercial world. A dentist of 10 years' practice should be earning $6 per hour gross—earning $3 net per hour.

Another point of vital importance. It has been conceded, after a lengthy canvass of the foremost men of the profession and accountants and cost experts on the side, that highly specialized laboratory work should command as much pay as work at the chair.

This special problem of whether the laboratory charges should be charged at the same price as chair time was put up to the representative of one of the largest cost expert firms of Pittsburgh, who handles the business of large corporations, and his decision, after giving the point much thought, was decidedly in the affirmative. Large law firms do it, the work of subordinates' work is charged the head of the firm's prices, and the head of the firm takes the responsibility. The principle is the same in our case. Other instances can be given in architects' and engineers' offices, etc., which proves enough precedent, and considering that these cost experts have studied such points as these and that these decisions are accepted by banks and the commercial world in general, we are only showing our ignorance by doing otherwise. Such a course will only prove our undoing.

It has also been brought out in another paper that the productive time in an office for one year is only *1,000* hours; the dentist may be in his office 2,500 hours but the losses, including time exceeding that con-

tracted for, makeovers, times for consultations and charity work—cut down the actual producing hours to an alarming extent. One thousand hours have to stand the brunt of the charges.

Therefore, the foregoing brings us to the crucial point that 10 hours' work on a single vulcanite plate at $6 per hour is $60, which is the minimum price that ought to be charged, gold plates in proportion, considering the knowledge which is put into a properly fitting denture. This leaves $30 for yourself.

This price, gentlemen, is what single rubber dentures will bring when the dentists wake up to the cost of conducting their practices and a knowledge of what is their due. There are more dentists who have realized these facts and are charging these prices than you would imagine, and at that, the patient is not paying one whit more than he pays for other things, considering value dollar for dollar. The poor man who scrapes his money together and pays $250 for a piano pays the salesman $125 profit. If it takes the salesman one hour to sell him that piano that workingman pays him $125 for one hour's work and that salesman does not shed any tears over it either. The poorest working people can and do afford and pay the various dealers a bigger rate of profit for various articles than they do the dentist, considering the length of service rendered. It is estimated that the dentist only asks 25 cents on the dollar compared with other men in other business. Yes and even less. Instead of being called D.D.S. we ought to be called D.P.P.—Department of Public Philanthropy.

It is not just, considering the knowledge required, that a dentist should receive only the pay of a good workingman or artisan. This fact explains, as a Dean of a college once said, why after 5 years a good many graduated dentists drop out of practice into other callings. A good many dentists in the farming districts, who complain of cheap prices, claim their class of patients could not pay these prices, **but do you find the merchants of the city reducing prices of farmers' necessities on that account?** The farmers pay the merchant the same price and ratio ot profit as does the workingman in the city. Every other iine of business from pins to automobiles is now controlled by interests that have educated (a little at a time) the masses (including dentists) to pay considerably more than was paid 10 years ago. That is an accepted fact but the prices of dental work have not changed to an appreciable extent in the last 15 years .

It bespeaks a lack of business acumen and a laxity in keeping up with the times on the dentists' part. Dentists may protest and say proper fees can't be gotten, but they are being gotten by the ones that are "waking up," who are determined to secure a competence in their old age.

A word about this competence. A competence is at least $30,000, which yields, at 4 per cent., $1,200 yearly, or $100 a month. Ask yourself, have you got it or are you saving it? If you are saving anything at all it is not from making plates, and it behooves you to study which department of practice you are losing money in, and plates is one of them.

The remedy is—start to-day. When the next patient for a plate comes to you, do not give him any limit, say (to start the propaganda) that he can have any price up to $60, and then he will naturally want to know the difference, then show him the anatomical articulator, the new rubbers and the new teeth and it's up to you to work the salesmanship stunt just as it is worked on you. Don't keep on quoting $10, $12, and $15 eternally. Sell service and you will be surprised within six months what a material change you can bring about among the very people you are now working for. Start to-day and then shortly you will be able to fit up an office such as you have dreamed of—and keep things going along these lines.

PROOF OF MALPRACTICE IN DENTISTRY

In recently affirming judgment, a Chicago dental company in favor of a patient for $1,000, as recovery for injuries claimed to have been sustained by the latter by reason of negligent performance of dental work done for her by defendant's employee, the Illinois Appellate Court decided that malpractice was sufficiently established by proof that the employee negligently bored through the roots of four of plaintiff's teeth into the alveolar process or bony tissues of the jaw, thereby causing a painful condition, which required long treatment and rendered impracticable the placing of a permanent dental bridge. Incidentally, the Appellate Court held that it was not improper to permit an expert witness to testify in plaintiff's favor as to the condition of the bore in plaintiff's teeth the year following the treatment by defendant's employee, without requiring plaintiff to first show that no one else had treated the teeth in the meantime, since it was open to defendant to show that the condition of plaintiff's teeth was aggravated by anything for which defendant was not responsible, if there was any such aggravation.

A. L. H. Street,
St. Paul, Minn.

ANSWER TO A REQUEST FOR ADVICE

I am opposed to any advertising which makes any mention of the dentist's personal skill, special methods, etc.

I don't believe the restrictive adjectives "fraudulent" or "misleading" as applied to statements will have any practical value. It is not anyone's business, in particular, to stop such statements, and the door will be just as wide open as ever.

If this society wants to accomplish something let it change the wording to something like the following: "Any member making any reference to his own personal skill, to special methods, etc., or advertising service at lower fees than he expects to receive for a fair grade of service, shall be brought before such and such a committee and if the charge is sustained shall be suspended for 90 days and for a third offense, suspended permanently."

In other words what is needed is not publicity for the dentist's special qualifications, but for dentistry as a means of good service.—EDITOR.

Editor DENTAL DIGEST:

Will you kindly allow me to answer "A Request for Advice" by "Massachusetts" in February DIGEST. His whole list of questions summarized, is that he believes in honorable publicity, and wants to know why he can't use it, and retain the respect of other dentists.

During my 32 years as a dentist and reader of dental journals, this same proposition has been presented in various forms, and nothing practical has ever come of it.

It is certainly time for a clear answer to be given, so that every dentist may understand.

The Code of Ethics, Art. 2, Sec. 2, says: "It is unprofessional to resort to public advertisements," etc.

There is your answer, and that certainly has been approved by every dental society in this country by the adoption of their code of ethics. Moreover, it will never be changed by societies who have adopted it, for good and sufficient reasons of their own, and any discussion with that end in view is as useless now as it has been in the past. You may think this an unreasonable assertion, but let us look at the facts. Let us look at dental organization as it exists to-day.

Most all of the State Dental Societies belong to the National organiation, and all have practically the same code of ethics. We will look into the organization of one state dental society knowing that it is but similar to all the other states; the knowledge of one will be knowledge for all.

I have before me the by-laws of the Wisconsin State Dental Society. This society is incorporated, and its executive council "has absolute control of the entire business" of the society, and may sit with closed

doors. This council consists of twelve active members, of whom the president, secretary and treasurer of the society shall constitute a part and these shall be the officers of the council. Three members of the council are elected each year and serve for there years. The president presides at all meetings of the council and can call special meetings at the written request of three of its members. Seven members constitute a quorum and the majority rules. A majority of the Executive Council of twelve members is seven, a majority of a quorum of seven members is four. Thus from four to seven members of the council constitute the determining power concerning absolutely all the business of the society.

As to the powers of the Executive Council I will quote by-law Art. 2, Sec. 1.

"The Executive Council shall have absolute control of the entire business of the society and may sit with closed doors. Any member of the Society desiring to bring any matter of business before the council may do so in writing and appear in behalf of such measure, by consent of the Executive Council."

The Executive Council is further empowered to elect all standing committees, which are, Dental Science and Literature, Dental Art and Invention, Publication Committee, Program Committee, Clinic Committee, Board of Censors, Infraction of Code of Ethics, Local Committee of Arrangements; also select the place of annual meeting. In case of the absence of the president and vice-presidents, the council shall fill their places. The council shall pass on the expenditure of all moneys of the society. It may authorize certain officers or committees to expend money for specific purposes. They shall appoint annually an auditing committee *from their own number* to examine the books of the secretary and treasurer.

While there are still other powers granted the council, the above is sufficient to show that the membership has empowered the council with absolute authority in all matters of business that concerns the society.

The ordinary member may vote once a year for the society's officers.

May be appointed by the Council on some committee.

May attend the annual meeting.

Shall pay dues. This is the extent of his society organization privilege and usefulness. So here is the present plan of Dental Society organization. What do you think of it?

Now if the code of ethics is to be changed by dental societies as now organized, by granting and defining honorable advertising from the twelve dentists governing the state society, what are the prospects? It has been a long road to their present position and they are satisfied. The proposed change would endanger the present line-up of prestige and

personally it could not appeal to them. Every society member has signed the Constitution and By-laws, as well as the Code of Ethics, and no council dentist could champion such change without censure and loss of prestige among his fellows. Unquestionably the road is closed for recognition of honorable advertising by the self-styled ethical societies.

The power of the executive council is supreme. The twelve dentists direct all things professional in the state. They say the dental profession will not endorse this or that—they know—because they are the profession —at least the controlling force invested with authorized power.

Those who believe in honorable publicity in dentistry should remember that it is utterly useless to expect dental societies, as now organized, to recognize it, and there remains just one thing to do, and that is to organize dental societies in all the states that do recognize honorable publicity in dentistry, not only as professional, but ethical and reputable as well.

Until this is done, any dentist who uses honorable publicity of any kind, will be looked upon by the profession as unprofessional, unethical and disreputable, the same as they have been during the past 50 years.

Dentists in Wisconsin last year organized and incorporated the Modern Ethical Dental Society of Wisconsin. They adopted the same code of ethics as that of the other society, except in regard to that pertaining to advertising; and instead have adopted the following as Sec. 2:

"It shall be unprofessional for any dentist to circulate or advertise fraudulent or misleading statements as to the skill of the operator, the quality of materials, drugs or medicines used or methods practised."

You will see from this that this Society regards all other publicity as proper.

A similar society has been organized in Michigan and Indiana and dentists in several other states are now considering such an organization. We would suggest to all those who believe in honorable publicity to find other dentists in their state who hold the same views, and then organize a Modern Ethical Dental Society in their state. They then will be in a position, unhampered by a tyrannical code, to conduct their dental business in accordance with the dictates of their own conscience.

I will be glad to help in any way I can to encourage such organizations for it is our hope that the time is not far distant when there may be organized a National Modern Ethical Dental Society. B. A. J.

The weak worry so much about the future than they never get a foothold in the present. One cannot do efficient work if his mind is filled with fear pictures of what may happen a year or two years from now. A mind filled with mental images is asleep to present opportunities.—Wm. E. Towne, in *The Healthy Home.*

HOW TO MAKE A DENTIST HAPPY

Feb. 26, 1916.

Editor DENTAL DIGEST:—

I am enclosing a short article which was placed in our local paper some time ago and you are welcome to use it if it is worth the space. It certainly has had a fine reaction here without getting any one peeved. I wish to congratulate you on the good stuff we get in the DENTAL DIGEST.

Yours truly,

W. H. OTTM.

There are a number of ways to make a dentist happy but the following procedure will always appeal to his humor and bring back to him, with vividness and rejoicing, that moment when he received the inspiration to study dentistry.

As a prospective patient put off your dental work just as long as you can so that the teeth will be badly broken down and filthy. They will then be harder to fill or crown, more painful and in general less satisfactory. Next find out if he guarantees his work for twenty years or fifty years. A reputable physician doesn't do this but a dentist ought to. Be sure to insist on getting the best work, which takes most time and best material, for the lowest cost. You can't buy a $20 suit for $10 in a clothing store or a Cadillac for the price of a Ford, but of course in dentistry it is different.

Upon seating yourself in the dental chair, inform the dentist how nervous and fussy you are, how brave you used to be and that you don't mind anything but the drilling. As soon as you feel the slightest indication of pain grab his hand and make him apologize. About this time get pale around the gills and pretend to faint; this will cause a delay and you can tell your friends how much time you have to spend in the dental office. Don't let him drill very thoroughly because this hurts and insures better work. Do not attempt to keep your second appointment, after the teeth have been temporarily treated and ache stopped. The dentist's time isn't worth much and he won't care, especially if he had to deny someone else the opportunity of coming because of your appointment.

When the work is finished don't pay for it because he doesn't need money. He gets his gold and materials as premiums especially since the European war. Tell him you will pay when you can spare it. From then on do not go near the office for at least a year or two and avoid him as much as possible. After he has sent you several statements and threatens to employ an attorney, call or send someone to settle the ac-

count. Be sure to tell him that the work was very unsatisfactory and has been aching day and night ever since it was completed and that you expected to have someone else do it over again. This will make the dentist regret that he was so rude in trying to get his money. If you make this part of the story strong enough he probably will cancel the debt entirely and pay you in addition for your inconvenience and humiliation.

W. H. Ohm, D.D.S.

THE BUSINESS SIDE OF DENTISTRY*

By J. J. Simmons, D.D.S., Dallas, Texas.

The boomerang will come around and strike your own head in time. In this connection I would add, that he who is wise in his own conceit becomes a liar as sure as the night follows day. True wisdom is as modest as a virgin, as timid as a fawn, and as generous as the light of the sun. It knows no selfishness, and he who possesses it doesn't lie.

Charity should be exercised in our labors. The Lord said the poor ye have with you always. Twenty-five per cent. of mankind works and takes care of the other 75 per cent., hence you should do your share.

With reference to fees, I would say that, as a whole, the dentist earns what he gets, yet he alone is responsible for the existing conditions if he does not receive enough for his services.

A capital plan to raise prices is to spend spare time in self-improvement not only as regards the profession, but along all avenues of life. Reading enables one to keep in touch with the happenings of the day and develops as well a pleasing personality, and one's personality is one of the greatest assets in securing and retaining a clientele to be desired.

Regular exercise and vacations tone up the system and strengthen one morally, mentally and physically. Correct habits enable the dentist to render better service to his patients and attract the better class.

Breadth of thought toward your professional brethren makes the business of dentistry more genteel to us, to them, and beyond doubt it raises us in the estimation of the laity.

CLOSING REMARKS (DR. SIMMONS)

One of the things that seems to be rather uppermost in the minds of all of you is, "How to get the money"? Now I don't have much thought of money. I have fixed a rule for myself, and if you will permit a little personal reference—I work while I work and play while I play. One of

*Abstract from paper presented at January meeting of the Dallas County Dental Society.

the best tributes my mother ever paid me was when she said that she had never heard me discuss my business. Leave your business at your office; don't take it home and go to bed with it; it won't help at all. Leave your business at the office.

When you go into a department store, did you ever notice how the young lady who waits on you always says, "Cash or charge"? Now have your business fixed so that you will be able to make money out of it. If you haven't the nerve to ask your customers for the money, you ought to hire somebody to do it for you. Now I have a little red-headed stenographer in my office who has one fixed idea in her mind, and that is "get the money," and if you should walk into my office and ask to see me about professional services she would walk right up to you and say, "Do you want to make a deposit"? She never lets them get by, I don't care who it is.

In our desire to accomplish things in this life brings to mind a little story which I remember and which may be worth something to you. There was once a dog named Jack who lived in a neighborhood where there were a lot of dogs just a little bit bigger than he was and every time he got away from home these dogs would tear out after him and he would tear out home. He just couldn't stand the pressure; it was too much for him. His master decided to go away and started on his journey. So Jack thought he would like to go and started out following just behind, and every now and then some dogs would run out and almost eat him up and then leave him, and he would have to run and catch up with the wagon again. One day while they were on the journey and Jack was running alongside he dropped into a bear trap and before he knew he had hit the bottom. He looked all around and then he saw the bear. He knew he was cornered and so he said to himself: "Now, Jack, you have been a little coward all of your life; you've never had any nerve; right here's where you will have to fight for your life—you are going to mix up with this bear;" and so when he had said this to himself he felt better and he started in and for once in his life Jack made a fair fight and came out victor. He was so pleased with himself that he started in from that time on and he whipped every big dog he came across and he made up his mind that when he got back home he was going to whip that old crowd. He had found his place—he had become a victor by having adjusted himself after having found his place, and Jack died a beloved and brave dog.

It is just as easy for every dentist in the city of Dallas to make a good business man, if we will just assert ourselves and use our talents, use good judgment.

Get up every morning with one word in your mind, "Deposit," and if you will do that you will get the money.—*The Texas Dental Journal.*

THE DENTIST'S OFFICE HOURS

The following table received from Fawcett & Fawcett, Brooklyn, shows that all of this agitation about the number of office hours, number of income hours, overhead expense, remuneration, average fees and that sort of thing, is entirely unnecessary.

Do you see the catch?

365 Days in the year—24 hours each.
122 Sleep 8 hours.

243
122 Pleasure 8 hours.

121
52 Sundays.

69
26 Saturdays ½ days.

43
14 Vacation.

29
13 Legal Holidays.

16
15 Lunch.

1 O Yom Kipur.

Hence you do no work at all in the 365 days from actual accounting.

THIS PATIENT FRANKLY LEAVES THE REWARD TO GOD*

It isn't often that a patient speaks his mind right out in this way, but many of them practise the belief that God is the one to reward the dentist.

This letter was received by a prominent dentist in India.—EDITOR.

DRS. SMITH BROS.
AMERICAN DENTISTS

SIR:—

I have been suffering from tooth disease for a very long time, I will give below the present state of my teeth and humbly request you to

*Courtesy of Dr. W. P. Heaney.

kindly give me free advise for which God will reward you. I have used all sorts of medicines but failed. Blood always comes out from the roots of my teeth. If the gums are pressed with finger ends a kind of matter pus comes the smell of which is bad, consequently very bad smell comes out always from my mouth, but do not feel any pain, of course they shake a little. My age is 30. The material like cement which is attached to the gums have all gone. My digestive power is very weak and irregular. I think the reason of it are that food which I eat are mixed with blood when chewing to get into the belly, thus causing indigestion. Also when laughing and feel a slight hurt into my face, blood comes out which smells bad.

I beg you kindly send a prescription for which act of kindness I will ever remain ever gratefully yours.

I remain yours

———— ————

Editor DENTAL DIGEST:—

On page 815, December 1915 DIGEST is an article taken from *Deutsche Medizinische Wochenschrift*, August 19, and called "Fatal Case of Pyorrhea Alveolaris."

The history of that case, as it reads, is very near like one in my own practice in the winter of 1913. Man about thirty-five years of age. The trouble looked like a very severe case of pyorrhea. I first extracted upper left 1st bicuspid, then in about two weeks the second bicuspid. They would not heal up. Very foul breath. I soon found out it was something I had never met with before, so I took him to a M.D. He was as puzzled as I was, and the patient finally lost all the teeth on left side clear up to and including the right central. The gums would not yield to treatment, and continued to discharge. In the meantime, the patient had fever, lost over fifty pounds in weight, when all of a sudden (forty-eight hours), he developed very severe ulcers of throat. He came in to see the M. D. and he called me and when I went in he said: "Dr. J.————, I have found the trouble. This man has syphilis." (This was about three months after I first saw the patient.) He proceeded to treat for same and was pleased to soon see improvement. The gums soon healed up and this winter I made the patient a partial denture, and he seems to be all right (to outward appearances) again. He claims never to have had any venereal disease.

E. G. J.

THE EFFICIENCY OF THE "TRUBYTE TEETH"

By George W. Weld, D.D.S., M.D., New York City

I am prompted to relate the history of one case of a full upper and lower denture which would seem to emphasize the importance and necessity in certain cases, at least, of making use of the "Trubyte" teeth in conjunction with the Gysi Adaptable Articulator. Mr. U. R. called upon me March 5th, 1915, for consultation. He informed me that during the past five years he had seven sets of teeth made by as many different dentists and that he was almost discouraged of ever finding a dentist who could make him a set that he could wear with comfort and usefulness.

On examination, I found one of the most difficult cases that had ever come under my observation.

In company with my patient, I called upon Dr. James P. Ruyl for consultation and help. Proper measurements were taken and the appropriate teeth selected. The teeth were articulated and ground up à la Gysi, and inserted in the mouth.

I am now able to report that the gentleman was enthusiastic over the result saying "I am convinced as you told me, in the beginning, that the Trubyte Teeth and the Gysi articulators have proved indispensable in my case, for proper comfort, and efficient mastication purposes."

AN ANSWER TO A QUERY

What metal is best for castings, to be used under gold crowns, for the purpose of building up badly decayed roots to support crowns? Would there be danger in using coin silver, containing 10 per cent. copper, in case the crown failed and exposed the coin silver to the secretions of the mouth?

In answer to above (page 115, February issue of Dental Digest)—would suggest using Westoria New Metal, in preference to coin silver or an alloy of silver as this will not corrode when exposed to saliva and also is much cheaper than silver. We very frequently cast practically a whole tooth out of it, and I have never seen a case where it corroded.—B. C. Taylor, North Wilkesboro, N. C.

One of our correspondents handed us the following which we consider worth time for reflection: "Income is the result and measure of ideas and effort." It looks logical if you consider the business side of dentistry as a part of the aforesaid ideas.—*Nebraska Dental Journal.*

PRACTICAL HINTS

[This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.]*

SECURING BRIGHTNESS IN ALUMINUM-RUBBER PLATES.—The hydrogen sulfid liberated in vulcanizing has a tendency to darken the aluminum in aluminum-rubber plates. To avoid this, the aluminum base-plate is covered with shellac or sandarac.—*Zahnaenztliche Rundschau* (*The Dental Cosmos.*)

A USEFUL APPLICATION FOR SORE LIPS WHILE OPERATING.—A little collodion is very useful to apply to sore lips before beginning to operate. It takes out the soreness, protects the lips, and they heal rapidly after the application. It is also useful to wounds on the hands, reducing the danger of infection and washing will not remove it.—*Pacific Dental Gazette.*

REPAIRING PUNCTURES IN RUBBER DAM AFTER ADJUSTING.—Take a piece of surgeon's adhesive plaster of the proper size, slightly warm it and cover the punctures. It will effectually seal the opening.—*Pacific Dental Gazette.*

A LOOSE PIN BANDED CROWN ESPECIALLY ADAPTED FOR UPPER LATERAL INCISORS.—Prepare the root the same as for a Richmond, being certain that you have the enamel removed and not beveled. Fit band and trim to contour or outline of gum. Then remove band, place on end of block of soft wood and place crown in band and swage slightly. The crown should be a trifle larger than the band and ground to a very slight bevel before swaging; then place band on root again, after having ground crown to fit root, and swage again directly against the root. Then remove and if you wish gold partition between crown and root, cut disk to fit about to the centre of the band vertically; again replace band and press disk up against root. Take impression, remove, invest and solder disk into band, using as little solder as possible. Then remove and drill hole large enough to receive pin, but not the collar; replace band on root, press pin in up to collar and with sharp pointed instrument outline collar, remove and cut to outline. You are now ready to polish and cement.

*In order to make this department as live, entertaining, and helpful as possible, questions and answers, as well as hints of a practical nature, are solicited.

Having root dried, fill hole in crown with cement and place pin part way, then put some cement on both sides of centre disk in band; then fill hole in root and put on the crown and you have a crown as serviceable as any, and in case of repair, easily and quickly done.—B. A. WRIGHT, D.D.S., Latrobe, Pa, *The Dental Summary.*

TO REPAIR GOLD CROWNS.—To repair crack or hole in gold crown, burnish over same piece 22 or 24 karat gold sufficiently large to cover space; flow upon same 14 or 18 karat gold solder, place it upon crack or hole with soldered portion in contact with latter, hold together with pliers, heat gently, and patch will adhere readily to crown.—J. A. RICHARDS, D.D.S., *Broomell's "Practical Dentistry."*

A GASOLENE SOLDERING OUTFIT.—Necessity is the mother of this little discovery, which may be of some benefit to other practitioners. If no gas supply is available for soldering, one has to depend on one of the various gasolene outfits for the laboratory. Anyone who has stood on one foot over a hot blowpipe on a hot summer day, pumping bellows with the other, can appreciate the relief this arrangement will afford. A Red Devil water motor, costing $3; a Vernon rotary compressor, costing $7.50, and a Buffalo gasolene gas tank and blowpipe are secured. The pulley wheel is removed from the Vernon compressor, and a sleeve connection made connecting the axle of the compressor and the water motor, thereby obtaining a direct shaft drive. The compressor and the gasolene tank are then connected with tubing of the desired length. Then the water is turned on the motor, and with the correct quantity of gasolene at the proper temperature in the tank, soldering can be done with the same comfort as with a gas outfit. I am using this arrangement every day, and find it to work perfectly.—C. G. BAKER, *Act. Dent. Surg., U. S. Army, The Dental Cosmos.*

HOW TO REMOVE BROKEN INSTRUMENTS.—For difficulties of removing the fragment of an instrument from a root canal,—especially if it has become embedded in the apical third,—and the inadequacy of the generally advised means for removal, I would recommend section of the root, guided by the aim of saving as much tooth structure as possible. My method of operation consists in turning over a flap of mucous membrane under local anesthesia, and making a windowlike opening in the alveolus with the aid of a fine, sharp chisel; the location of this opening to be determined by the x-ray picture. The root thus exposed is opened in its long axis with a fine rosehead bur, the embedded instrument is quickly exposed to view, and pushed out in the direction of the pulp chamber with stout, curved sounds. In order to avoid an oversight or swallowing of the broken instrument, a pellet of cotton has been previously introduced into

the pulp chamber in order to engage the fragment upon removal. The incision in the root is then filled with tin, gold or amalgam, the lumen of the canal being preserved by a sound previously introduced into the canal. If the canal has been opened up to the apical foramen, this sound is superfluous, as an hermetic sealing of the canal is desirable. The field of operation is carefully cleansed and sterilized, and the wound in the mucous membrane closed by a suture. This operation is, of course, most favorably indicated in single-rooted teeth. It has the advantage over resection of the root apex, as recommended by Williger (see *Dental Cosmos*, November, 1912, p. 1289), that the amount of injury inflicted upon the tooth is very small, a slit of 1 mm. breadth being sufficient, and that a very small portion only of alveolar bone need be removed, since the broken instrument is removed by way of the pulp chamber.—E. SCHUSTER, Leipsig, *Deutsche Monatsschrift fuer Zahnheilkunde.* (*American Dental Journal.*)

HYPODERMIC SYRINGES.—If your all-metal hypodermic syringe "leaks back," take out the leather washer and replace with a strand or two of asbestos "rope." This answers the purpose better than leather, and will stand boiling without materially affecting same.—J. FRED GORDON, Albury, N. S. W., *Commonwealth Dental Review.*

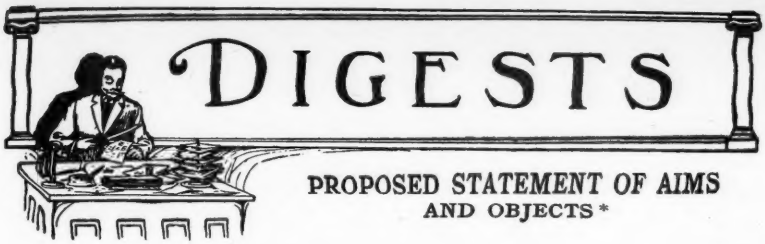
QUESTIONS AND ANSWERS

Question.—Will you or some of your readers tell me if the glass or formaldehyde sterilizer for dental instruments is efficient and thorough? I saw much advertising for different makes of that kind of sterilizer several years ago, but in the last year or so I haven't seen any, or any writing at all, about them.

Also would like to know of a practical way of sterilizing handpieces. —H. E. S.

ANSWER.—The formaldehyde sterilizer (preferably the glass one) is in quite general use, I understand, to keep instruments in weak solution after they have been sterilized by boiling. The solution strong enough for sterilization has quite a disagreeable odor. I know of one case where a dentist used it for sterilization for a year or two, dipping his hands into the liquid daily until his hands became sore and remained so for a number of weeks—formaldehyde poisoning he thought.

I believe the most practical way to sterilize handpieces is to immerse them in 60 per cent. alcohol. Let them run in same for a minute between patients and then let them soak in it over night. Wipe off and oil before using, as alcohol kills the lubricant.—V. C. S.



PROPOSED STATEMENT OF AIMS AND OBJECTS *

FEDERATION OF MEDICAL ECONOMIC LEAGUES

This statement, taken from The Medical Economist's Official Organ of the Federation of Medical Economic Leagues, contains some suggestions of more than passing interest to dentists, and especially the reference to administration of anaesthetics. The whole thing is worth your perusal as it shows a movement in medical circles which looks like "business."—EDITOR.

The Federation of Medical Economic Leagues has for its objects the protection and promotion of the economic and professional interests of all medical men, the increase of the usefulness of the medical body to the community, and the conservation of the public welfare. Holding that these objects are not opposed, but, on the contrary, are intimately connected with one another; that the public is best served when the economic and social status of the medical profession is commensurate with the importance of its communal duties; and that the important changes which have taken place and are still taking place in our social organization require a careful readjustment of medical practice to accord with the needs of the times:—the Federation declares its aims to be the following:

I. To organize the profession on a democratic basis, creating a medical body politic that shall include all legal practitioners of medicine; to the end that both its external and its internal adjustments may be developed as the true interests of the public and the profession require.

II. To study the economics of medical practice in its modern developments, and the means of adapting its present conditions to changing social requirements.

III. To publicly represent the medical profession, and to inform the community of its legitimate needs and aspirations; we holding that want of general information is the occasion of much present maladjustment.

IV. To promote and foster in our own ranks that spirit of justness and fairness in our mutual and civic relations that will render formal codes of ethics unnecessary.

V. To secure for the practitioner proper recognition and just compensation for his work; and to equalize the burdens of communal charity, which the present system inequitably disposes to our disadvantage.

*Submitted by the special Committee, Feb. 1, 1916.

VI. To oppose any curtailment of the necessary rights and privileges accorded to physicians who conform to legal requirements.

VII. To coöperate whenever possible with civic and private bodies whose endeavors bear relationship to the public health or to medical practice; to favor the enactment and enforcement of just and uniform medical laws; and to oppose medical legislation that is detrimental to the public interest, or improperly encroaches on medical practice.

VIII. To raise the standard of medical education of licensed practitioners as well as of undergraduates; to which end the opportunities for observation and study that are afforded by public institutions should be open to the profession at large, and not be monopolized by a few individuals.

The more immediate objects of the Federation of Medical Economic Leagues in New York are:

1. To discourage and gradually to abolish the present system of volunteer medical work in our public and private medical institutions, which is inefficient and unjust to the workers; and to substitute therefore a system which shall place the community work done by the medical profession on the same plane as that done by other members of the body politic. We hold that medical services in hospitals, dispensaries, and similar institutions should be paid for, as all other services are paid for.

2. To uphold and support the health authorities in all their legitimate activities in sanitation and disease prophylaxis, but to oppose their entrance into the field of disease treatment. The public charities department can and should take care of the indigent sick; and we regard the establishment of public clinics by the Health Department for the treatment of special diseases as an unnecessary expense which pauperizes the community and injures the medical profession.

3. To oppose the **indiscriminate** administration of medical charity by public and semi-public institutions; to enforce the principle that, when supplied without honest investigation and on the same basis as any other poor relief, it is detrimental to the entire community; and to secure the enactment and enforcement of efficient regulations for this purpose in the place of the present ineffective law.

4. To oppose all projected laws or amendments of laws that would permit individuals not possessed of the prerequisite educational requirements, and not examined and licensed by the State as practitioners of medicine, to practice medicine in any form or under any subterfuge, or to assume any of the duties or responsibilities of physicians.

5. To safeguard the rights and promote the equitable interests of medical men under the various enacted and projected schemes of State

Industrial and State Health Insurance; and to prevent the individual exploitation of medical practitioners in them by corporate interests.

6. To gradually extend to all licensed physicians, under proper safeguards, the facilities for caring for their patients in, and the opportunities for study and improvement afforded by, the public medical institutions of the city and state; we holding that a license by the state to practice medicine in the community at large necessarily connotes the ability to care for its individual members when they have become public charges.

ADVICE TO THOSE ABOUT TO WEAR ARTIFICIAL TEETH

By D. W. Barker, M. D. S., Brooklyn, N. Y.

The advice here given has been a help to others and may be a help to you. You are now about to begin to learn to do something you have never done before—to use an artificial substitute for natural organs (teeth) and, however perfect they may be, they are not equal to the natural teeth, nor are they used in the same way.

Do not expect to acquire facility in the use of these new things at once. That comes only by practice, patience and time. You cannot learn it in a few days, or a few weeks. You will learn it a little at a time, day by day, gradually acquiring command over them. In a month or two you should acquire a considerable degree of skill. Above all, do not become discouraged and get the notion that your experience is in any way different from that of other beginners. All others who wear artificial teeth have to go through this process of self education. The dentist may do his part perfectly, but this is something that you have to do for yourself; no one can do it for you, and unless you do it your teeth will not be a success. You should not allow yourself to get into the habit of leaving the teeth out. To do so is to incur a distinct loss, for no one ever learned to use a set of teeth by wearing them in the pocket or the bureau drawer. You can learn to use them only by using them, just as a child learns to walk by walking, though imperfectly at first.

There are two things that will take you longer to learn than anything else, namely, talking and eating. I will consider them separately. In speaking there are certain sounds that are apt to be more difficult than others; s, x, ch and sh are the worst. A good way to overcome this difficulty is to practise reading aloud. Do it alone so there will be none to attract your attention. Read slowly and make it a point to enunciate each syllable distinctly. When you meet with a word that bothers you, stop and say it over and over until you can say it distinctly. Remember

you are training the muscles to obey the will very much as a child does in learning to talk. The more this simple and easy exercise is practised the quicker you will be able to speak distinctly. Following this plan most of the difficulties of speech will disappear in a few days.

Learning to eat with them will take you somewhat longer, but the principle is the same. Don't expect to eat your first meal with your new teeth just as you did with your natural teeth, nor just as someone else does who has worn artificial teeth for many years, for you won't do it; no one ever does it. I used to know a dentist who would tell his patients not to yield to the temptation to take out their teeth at their first meal and they would not want to take them out the second time. This I consider bad advice, because the patient is apt to become discouraged at his failures, and get the idea that there is something wrong with the teeth or himself. If you become discouraged and lose confidence in your ability, the teeth will not be the success that they should be. Therefore, I would not advise a beginner to try to do too much at first. If you only eat part of the first meal with them you are doing very well. Gradually increase the length of time at each meal, eating slowly, and in a few days with increased confidence and control, which comes by practice, the whole meal can be essayed. Even then you will find you are learning something more every day and as the days pass an increased efficiency is acquired. If you attempt to bite upon a hard substance, like an apple or an ear of corn, you will probably trip them, for this is a severe strain upon the suction. It may be accomplished, however, by pressing the apple firmly upward against the teeth at the moment of biting upon it. This may be tested with the finger, and it will be found quite impossible to trip them.

Some people acquire a habit (after their teeth have been extracted) of holding a handkerchief over the mouth when in the act of laughing. If you have such a habit you should break yourself of it at once, for the action directs the attention of the observer to the mouth; if you do not make the motion no one will think of looking there.

"Shall I keep them in at night?" is a question often asked by a beginner. To this I answer, "No, not right away, because they would keep you awake. But after you have become accustomed to them you may try it if you think you would be more comfortable. It is just as you find it most comfortable."

If you find that your plate makes a sore spot, usually somewhere along the edge, this is not an indication that the plate does not fit properly, but merely that there is a little too much pressure at that particular spot which should be relieved by filing off a little. Almost all new plates have to be relieved in this way. Return to the dentist while the place is sore (not after it has gotten well) and he will know how much to file it off.

Your artificial teeth should be kept clean. To do this they should be carefully and thoroughly scrubbed with a stiff brush several times a day (after each meal if practicable). A tooth brush is not a good brush for this purpose. A small hand scrub brush is much better.

In conclusion, I wish to urge you to give no heed to the teasing or joking comments of your friends. In most cases it has no serious meaning, but may arouse dissatisfaction in your mind where no cause for dissatisfaction really exists.—*The Dental Summary.*

AN EPITOME OF CURRENT DENTAL AND MEDICAL LITERATURE

[*The Dental Cosmos*, March, 1916]

Original Communications

War Dental Surgery: Some Cases of Maxillo-facial Injuries Treated in the Dental Section of the American Ambulance at Neuilly (Paris), France. By Dr. Geo. B. Hayes.

*The Innervation of Dentin. By J. Howard Mummery, D.Sc., M.R.C.S., L.D.S.

The Porcelain Inlay in Europe. By N. S. Jenkins, D.D.S.

The Evolution of the Human Face and Its Relation to Head Form. By Dr. E. A. Hooton.

The Design and Retention of Partial Dentures. (I). By Douglas Gabell, M.R.C.S., L.R.C.P. L.D.S.

Sanitary Dental Cuspidors on Board Ships. By J. D. Halleck, B.S., D.D.S.

The Importance of Biology as Applied to Dentistry. (II). By Dr. Ch. F. L. Nord.

Precautions to be Observed in the Care of Mouth Infections with Regard to the Preservation of Health. By W. Stirling Hewitt, D.D.S.

Methods of Teaching Orthodontics to Dental Students. By S. H. Guilford, A.M., D.D.S., Ph.D.

Public Dental Services. By Walter Harrison, L.D.S., D.M.D.

The Germicidal Efficiency of Dental Cements. By Paul Poetschke.

Prophylactic Treatment at Different Ages. By Prof. Albin Lenhardtson.

THE INNERVATION OF DENTIN

By J. Howard Mummery, D.S.C., M.R.C.S., L.D.S.

POINTS DEMONSTRATED BY THE WRITER'S PREPARATIONS

(1) That, at all events in actively growing teeth, there is a considerable supply of non-medullated or efferent fibers to the tooth pulp, which are derived from sympathetic ganglia and not concerned in any way with the sensitiveness of the dentin, their ultimate fibrils probably being distributed to the coats of the bloodvessels and the secreting cells of the pulp; whether any fibers of this system enter the dentinal tubes it seems impossible to determine.

(2) That at the cornua of the tooth pulp, the bundles of medullated nerve fibers lose their medullary sheath and neurolemma, and the axis

cylinder expands into a spreading mass of neurofibrils, which can be traced directly to the dentinal tubes, which they enter.

(3) That in young, growing teeth, these fibers at the cornua are very abundant, and have a wavy course; they appear to consist of bundles of neurofibrils in many instances, and these vary much in diameter, the further divisions of these bundles probably taking place in the tubes of the dentin.

(4) That at the lateral portions of the pulp, the neurofibrils passing from the main nerve trunks enter into an intricate plexus beneath the odontoblasts, and are again collected into larger strands of neurofibrils, which mostly pass directly into the dentinal tubes. They also demonstrate the different appearances of these strands of fibrils, some being large and showing bead-like enlargements at intervals, other finer fibers having a minutely dotted appearance.

(5) That where the pulp is separated from the dentin, the nerve fibers seem to be pulled out from the pulp and from the dentinal tubes, and stretch across the interval, evidently under considerable tension.

(6) That the nerve fibers enter the dentinal tubes in company with the dentinal fibril.

THE IMPORTANCE OF BIOLOGY AS APPLIED TO DENTISTRY

By Dr. Ch. F. L. Nord, Gorinchem, Holland

CONCLUSIONS

In closing, I wish to draw the following conclusions:

(1) The decline of the teeth must especially be ascribed to panmixia, and cannot be considered as a symptom of degeneration according to the present stage of biological science.

(2) The connection between anomalies of the teeth and other deformities (hair and eye diseases, cleft plate, etc.) is probably caused by the inferior quality of a certain hereditary variant, which is the cause of all these anomalies.

(3) Anomalies of the teeth, so far as they are not brought about by apparent external causes, must be considered as hereditary, and it is therefore of great importance to make a careful research into the facial relations of the family of the patient before beginning treatment.

(4) Whereas dental anomalies of *all* possible grades may be inherited, and whereas it is very probable that there is a correlation disturbance in the relationship of the upper to the lower jaw which may involve *all* dimensions, we must, in the treatment of those anomalies, resort to extraction, and we must also consider as biologically incorrect the standpoint of Angle's school, viz., that in the restoration of normal occlusion and normal facial relations, extraction is at all times unnecessary.

PUBLIC DENTAL SERVICE

By Walter Harrison, L.D.S., Eng., D.M.D. Harv., Brighton, Eng.

The movement of public dental service must be national, in the sense that those who are eligible for treatment, even in remote villages, should be able to avail themselves of the privileges.

The fundamental principles in a public dental service should be:

1. The service should be entirely controlled by the profession.

2. Every reputable registered dentist in the district should have the option of joining the staff.

3. The profession (by means of a committee) should decide who are suitable persons to receive the benefit.

4. The fees should be fixed by the local practitioners.

THE FIRST "PUBLIC DENTAL SERVICE."

The "Brighton and District Public Dental Service" is formed to check "the admitted evils of excessive medical charity and misuse of hospitals," and enable certain sections of the community, who are unable to pay the ordinary fees, to obtain dental attention by registered dentists, at modified fees, and by a system of payment by instalments, through the means of an organization under the control of the local members of the profession.

[*The Dental Review*, March, 1916]

Original Communications

What is the Matter with Dentistry in St. Louis? By Clarence O. Simpson.
President's Address. By E. A. Boyce.
Some Recent Tendencies in Practice. By Arthur G. Smith.
Three Years and Some More. By Franklin B. Clemmer.
Chemical Treatment for Pyorrhea Alveolaris-Necrotic Tissue. By J. S. Bridges.

Proceedings of Societies

Chicago Dental Society.
St. Louis Dental Society, October 12, 1915.

Editorial

Dental Service in the Public Schools of Chicago.

[*The Dental Summary*, March, 1916]

Regular Contributions

The Place of the Silicates in Dentistry. By Charles C. Voelker.
A One Tooth Bridge. By D. D. Smith.
Root Resection and Apical Canal Filling After Resection. By Carl D. Lucas.
A New Retainer for Pyorrhetic Tooth. By Alden J. Bush.
Some Problems in Mounting Artificial Dentures. By George H. Wilson.
The Anatomy of the Oral Cavity in its Relation to Local Anesthesia. By Hugh W. MacMillan.
President's Address. By Edward C. Mills.

*Some of the Cases Dental Surgeons Treat in the European War. By A. M. Fauntleroy.
Historical Sketches and a Few Items in Practice. By J. G. Templeton.
*The Oral Prophylaxis Treatment vs. "Cleaning Teeth." By Gillette Hayden.
A Sand Sterilizer. By C. S. Starkweather.

SOME OF THE CASES DENTAL SURGEONS TREAT IN THE EUROPEAN WAR*

By Surgeon A. M. Fauntleroy, U. S. N., Washington, D. C.

"One of the most striking features of the value of a dentist in the organization of a military hospital is shown in the results obtained by surgical coöperation with the dentists at the American ambulance in connection with the mutilating wounds of the face (Illustrated). These wounded always show compound fractures of the upper or lower jaw, with a variable amount of loss of substance. They represent a class of cases which extends over a period of months before a final operation is performed which completes the result. A wound of this character is considerably hampered at first with reference to the healing process on account of the secretions from the mouth and the necessary feeding of the patient. At the first operation these ragged and mutilating wounds are treated by the careful trimming away with scissors of the sloughing areas. In this procedure the vermilion border of the lip is preserved as much as possible, and then the tissues are loosely brought together with sutures and protected by a loose dressing, which has to be changed several times a day.

The preliminary steps of the operation consist of shaving the face and neck, scrubbing with green soap and water, followed by 70 per cent. alcohol. As the mouth secretions are profuse and the bleeding rather free, it will be necessary to provide means for the prompt removal of this mixed fluid from the pharynx during the operation in order not only to prevent strangulation but also the inhalation of septic material which may cause pneumonia. This is best accomplished by a simple water-suction apparatus secured to a faucet in the operating room and having a long tube attached which ends in a good sized catheter. This latter is held in the pharynx by an assistant during the operation, and the fluid is thus removed as it accumulates.

The most that is hoped for from the first operation is that the soft parts will unite in such a way as to admit of correcting any serious deformity later on by means of a final plastic operation. There are usually three stages in the general operative procedure. The first stage consists of

*To give our readers something of an idea of some of the face and jaw wounds that the army dental surgeon, in the European war, has to treat, we copy this description from the "Report on the Medico-Military aspects of the European War," by Surgeon A. M. Fauntleroy, U. S. N., which has just been published.—*Editor.*

bringing the soft parts loosely together, as indicated above. Usually there is so much loss of bony substance that no effort can be made at this time to unite the fractured ends of the bone.

After the soft parts have united, the second or dental stage is begun. A metal bridge is anchored, by the dentist, on whatever teeth remain at the ends of the fragments. This bridge may be temporary at first for the purpose of simply holding the loose fragments in a steady position in the mouth. Gradually a scar will form over the ends of these fragments and the continuity of the mucous membrane of the mouth is slowly restored over the scar thus formed. The condition of the parts at this time is fairly satisfactory although there may be considerable puckering as a result of the partial or complete healing of the original wound. Once the mucous membrane has grown over the scar between the bone fragments the third stage of the operation may be attempted. This consists, first, of a plastic procedure, which is directed toward as complete a restoration of the face as is compatible with the destructive effects of the original wound and the available skin in the immediate neighborhood of the scars. The second step consists in the removal of a portion of a rib, or of the tibia, which is then transplanted to complete the bony continuity of the jaw beneath the bridge.

In proceeding with the plastic operation on the skin, it may be necessary to partially remove the scar so as to bring about a better readjustment of the tissues. Injury to the newly formed mucous membrane must be carefully avoided, but if it is necessary to incise it, or if accidentally wounded, it must be carefully sutured. Having outlined the plastic work by the formation of suitable skin flaps, the ends of the bony fragments are carefully dissected free from the scar tissue so that no injury results to the underlying mucous membrane. The ends of these fragments are now freshened by either beveling or grooving. An accurate estimate is then made of the bone required to bridge the gap and a suitable piece of rib with periosteum may be resected, or a portion of the tibia with its periosteum may be removed, according to the preference of the operator.

There are several ways of securing the transplanted bone in place. It may be beveled and fitted into corresponding grooves at the ends of the fragments; it may be drilled and sutured in position with chromic gut; or, if the conditions are favorable, some form of bony inset may be attempted along the lines of a mortise and tenon joint. Having fixed the bone in place, the skin flaps are sutured and boric acid dusted over the suture lines. The after-treatment consists of careful liquid feeding and frequent mouth washing.

THE ORAL PROPHYLAXIS TREATMENT VS. "CLEANING TEETH"

By Gillette Hayden, D.D.S., Columbus, Ohio

The advantages of the oral prophylaxis treatment over the usual process of cleaning teeth are:

First: The treatment given is definitely aimed at the elimination from the mouth of all débris.

Second: The tooth surfaces are rendered smooth so that débris will not adhere so readily to them, and the patient therefore can more accurately care for the mouth and teeth.

Third: The patient is stimulated to give better attention to the mouth and teeth because of the frequent treatment at the hands of the dentist.

Fourth: If any cavity development occurs, or any dental operation becomes faulty, or any adverse condition of the mouth develops, the dentist has an opportunity to discover such a condition in its early stages.

Fifth: The teeth and their investing tissues are maintained in such a state of health that their resistance to disease will be normally high. Thus to a great degree decay of the teeth and loss of their investing tissues through disease are prevented, as are also those systemic diseases which result from mouth infection.

[*The Dental Outlook*, March, 1916]

Original Communications

The Present Status of Oral Sepsis, Its Relation to Systemic Disease—J. Grossman, M.D.
Discussion of Dr. Grossman's Paper. By M. Grossman, M.D.
A Small Inlay Becomes a Large Outlay. By L. Eliasberg, D.D.S.
On the Admission of Dentists to Our Societies—A Reply to "Quality and Quantity." M. H. Feldman, D.D.S.
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[*The Dental Register*]

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[*The Texas Dental Journal*, February, 1916]

Original Communications

The Business Side of Dentistry.

With Our Contemporaries

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The Educational Value of Oral Hygiene in the Army.
Advice to Those About to Wear Artificial Teeth.

[*The International Journal of Orthodontia*, February, 1916]

Original Articles

Students as Orthodontists. By Adelbert Fernald, D.M.D., Boston, Mass.
Jurisprudence. By Elmer D. Brothers, B.S., L.L.B., Chicago, Ills.
*A Plea for Conservation of the Cementum. By F. Hecker, B.S., D.D.S., A.M., M.D.
History of Orthodontia (Continued). By Bernhard W. Weinberger, D.D.S., New York City.
Case History. By H. C. Pollock, D.D.S., St. Louis, Mo.

A PLEA FOR CONSERVATION OF THE CEMENTUM

By F. Hecker, B.S., D.D.S., A.M., M.D.
Director of Research Laboratory of the Dewey School of Orthodontia, Kansas City, Mo.

The object of this paper is a plea for less heroic instrumentation and greater conservation of the cementum on the roots of teeth affected by pyorrhea alveolaris. When a failure of union between the peridental membrane and the root of the tooth occurs after heroic instrumentation has been instituted, it is not because the peridental membrane has been removed in its entirety for, on scaling the roots of the teeth, only the ends of the fibers attached to the cementum have been cut and partially removed, while the fibers of the alveolar surface are often intact. The failure of union results because the operator, in his heroic scaling, has removed the basal layer of the cementum, and the dentin of the root of the tooth is exposed. Even if a few islands of the cementum are left on the root of the tooth, the area of destruction of the cementum is proportionately so great that the remaining cementoblasts (or lacunæ) are unable to regenerate the cementum to such an extent as to replace the destroyed cementum.

The popular teaching at the present is that the peridental membrane carries in its substance the cementoblasts and that the development of the cementum is dependent on the peridental membrane. This teaching the author believes is not correct, for the reason that the peridental membrane histologically is an exact counterpart of the periosteum. One needs to do nothing more than examine a slide made from a section which shows the root of the tooth *in situ* in the alveolus to be convinced that such is the case. And further, the author believes it is impossible for one to place the pointer of the eye-piece at a definite point, and state that the tissue at one point is peridental membrane, while that at an adjoining

point it is periosteum, for histologically there is no evidence on which one can make an actual differentiation. In lieu of the work done by Mac-Ewen of Scotland, in which he shows, by experimental evidence, that the periosteum does not carry osteoblasts in its substance, and further that the function of the periosteum relative to the formation of new bone is that of a limiting membrane; the author, in his examination of a large number of slides of sections which he has made of the root of the tooth in the alveolus taken from the human mouth in the morgue, has not, up to the present, observed any free cells in the substance of the peridental membrane in the vicinity of the cementum, which morphologically resembles the cementoblasts described by Black and Noyes. The peridental membrane, the author believes, is a limiting membrane for the cementum and the alveolus. Vitally, the fibers of the peridental membrane have a direct affinity for the cementum and if the cementum is absent the fibers do not find a surface which is adapted to their need, and no union occurs.

[*Dominion Dental Journal*, February, 1916]

Original Communications

Anocain. By E. W. Paul, D.D.S., L.D.S., Toronto.

The Advantages and Risks of Combined Local and General Anæsthesia. By W. H. B. Aikins, M.D., Toronto.

The Combined Use of Local and General Anæsthetics and the use of Adrenalin. By Dr. D. J. Gibb Wishart, Toronto.

Mr. Barker's Method of Spinal Anæsthesia. By C. H. Hair.

Gas and Oxygen Analgesia. By Dr. H. R. Holme, Toronto.

Ether. By Dr. J. F. L. Killoran, Toronto.

*The Methods of Resuscitation in Anæsthesia. By Dr. T. R. Hanley, Toronto.

Anæsthetics. By E. W. Paul, D.D.S., L.D.S., Toronto.

It Pays to Care for the Soldiers' Teeth. By Lieut.-Col. Hendrie.

THE METHODS OF RESUSCITATION IN ANÆSTHESIA

Dr. T. R. Hanley, Toronto

The methods of resuscitation have been interpreted by me to mean the treatment of the dangers which arise during anæsthesia as well as the actual treatment of suspended animation.

I intend to bring to your notice some of the commoner dangers arising during anæsthesia and follow them up by suggestions which have proven in my experience to be most beneficial.

Broadly speaking, then, the dangers met with in anæsthesia may be divided into two groups:

(1) Respiratory failure.

(2) Cardiac failure.

The Causes of Respiratory Failure—

1. Blocking of the air passages by foreign materials, such as blood, vomitus, mucus, etc.

Treatment—must be preventive—

(a) *Always* ask the patient before beginning your anæsthetic about the presence of artificial teeth.

During the introduction try and prevent vomiting. If the patient does vomit, turn his head to one side and tile the shoulder; if necessary lower the head of the table.

(b) *Mucus.*—If it is anticipated for any reason, such as bronchitis, tuberculosis, give atropine gr. 1/100 half an hour before operation. If the patient does develop mucus and the accompanying cyanosis tends to become alarming, give the patient more air or oxygen, and use more anæsthetic proportionately. If the patient stops breathing use Shafer's method of resuscitation.

(c) *Blood.*—Try to get it to drain out by placing the head well over to the side. Put a piece of gauze in the corner of the mouth. In mouth operations use Johnston's apparatus and pack the throat. In nose operations, such as radical antrum, place a plug in the posterior naso-pharynx.

(d) *Anatomical Abnormalities.*—Spurs, adenoids, goitre, etc.

(e) Spasm of the muscles at the base of the tongue. Spasms of the aryteno-epiglottidean folds in the larynx and general spasm of the respiratory muscles.

See that the head is in *the best possible position* for free breathing. Let them assume the natural position in which they sleep. Some patients are round shouldered and breathe better with a pillow under the head. In some cases it is well to place the nasal tube in position reaching as far as the upper border of the epiglottis. Sometimes, holding the jaw forward from behind the angle so that the tongue muscles are on the stretch, tends to raise the base of the tongue from the posterior pharyngeal wall—and will suffice. As a last resort, use the mouth gag and pull the tongue forward with a pair of forceps.

If spasm of the muscles of the larnyx is due to a flake of mucus, which is sometimes the case, let the patient have a few breaths of air and *do not* push the anæsthetic. If due to irritation from strong vapor, give more air or oxygen.

(f) *Position of the Patient.*—Absolutely prone as in laminectomy, trephining, cerebellar tumor, kidney operations, etc.; the obvious treatment is to immediately change the position.

(g) *Toxic action of the anæsthetic.*

1. Early.—Relative overdose.

2. Late.—Overdose causing a paralysis of the centre in the medulla.

In either case, act quickly—open the jaws, pull the tongue forward, sweep the fingers around the posterior pharynx and see that no foreign

matter is blocking the air passages. Try artificial respiration, and if air is entering the lungs no further anxiety may be felt on that point. If air does not enter, push the tongue forward from the base by placing the forefinger in the mouth and again try your artificial respiration. If that doesn't help matters, tracheotomy should be performed and artificial respiration carried on for at least one hour, providing the patient has not revived in the meantime.

At the same time as you are using Sylvester's method have an assistant use rhythmical tongue traction (Laborde).

(h) *Where* shock is anticipated, or the general condition of the patient is below par, it is well to start interstitial salines at the beginning of the operation, and not wait until the patient is *in extremis*.

(i) In sudden severe hæmorrhage, stop your anæsthetic, give your salines by the needle into the vein, and lower the head of the table.

(j) Exophthalmic operations, mastoids empyema, erect posture for nose and throat operations, use very light anæsthesia. Do not abolish the reflexes completely.

Cardiac failure may be due to:

1. Extrinsic causes other than overdose.
2. Toxic action of the anæsthetic.

Extrinsic causes.

(a) Fright—at the very beginning of the anæsthetic—a very common cause, you will remember, in pre-anæsthetic days; use morphia gr. $\frac{1}{8}$-$\frac{1}{4}$ before the operation. Try always to win the confidence of your patient.

(b) Feeble condition of the patient from exhausting diseases, constitutional dyscrasia, etc. Proper choice of anæsthetic, care in the administration and proper preparation beforehand will obviate these to some extent.

(c) Shock from operation, such as a re-section of bowels, cutting the spermatic cord, rectal operations, etc. Reflex of threatened vomiting, especially with chloroform, and position of the patient must all be thought of and properly met.

Toxic action of anæsthetic.

1. Syncope in the early stages, more especially with chloroform, owing to relative overdose or cardiac inhibition caused by strong vapor irritating the laryngeal branches of the vagus nerve.

2. Later syncope from overdose, causing paralysis of the centre in the medulla or of the cardiac muscle and its intrinsic ganglia.

Treatment: Lower the head (invert children), open the mouth, draw out the tongue, and while you do Sylvester's method of artificial respiration have an assistant do rhythmical tongue traction of Laborde.

Have the nurse give whatever stimulants you may think necessary. I

prefer camphor grs. 10, pituitary extract 1 cc., or strychnia gr. $\frac{1}{10}$ in the order named.

If the abdomen is open, have the surgeon gently massage the heart.

Electrical stimulus to the side of the neck is recommended in the hope of influencing the phrenic nerve, but the result is doubtful, considering, as we must, the close proximity of the vagus.

The pulmotor, lauded so greatly a few years ago, has, I think, been relegated to the museum, but a new instrument has been devised which promises good results and will bear a thorough trial.

Injection of strychnia directly into the heart muscle may be done as a last resort, but I don't see that it has much to commend it.

[*Oral Health*, February, 1916]

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Local Anesthesia With Use of Anocain. By B. R. Gardiner, D.D.S., Toronto.
Impressions of the Twenty-third Annual Meeting of American Institute of Dental Teachers. By Thomas Cowling, D.D.S., Toronto.
Address Delivered to Toronto Dentists by Major Clayton, Acting Chief Dental Surgeon, Canadian Army Dental Corps.
Great Need for Reading Matter at the Front.
Splint for Fractured Mandible. By William Herndon Pearson, D.D.S., Norfolk. Va.
Chicago Dental Society's Fifty-second Meeting. By W. B. Amy, D.D.S., Toronto.

CHRONIC ORAL INFECTIONS AND THEIR RELATION TO DISEASES IN OTHER PARTS

By Thomas L. Gilmer, M.D., D.D.S., Sc.D.

The preliminary report made by Dr. A. M. Moody, bacteriologist, St. Luke's Hospital. This study is for the purpose of determining, so far as possible, the effect on animals injected with strains of freshly isolated streptococci from chronic alveolar abscesses. In this work strains of streptococcus viridans, isolated from alveolar abscesses in fifteen patients suffering from various pathological conditions, have been injected into a total of forty-seven rabbits.

The streptococcus viridans in every instance is the predominating organism, and that in only one instance was the staphylococcus found, and then just an occasional colony was present.

Of the fifteen patients with chronic alveolar abscesses six had also pyorrhea; eight had rheumatism, one each acute gastric ulcer, neuritis, myocarditis, mitral endocarditis, and nephritis. Rosenow's technique, in a large measure, has been followed in these studies. The exceptions are two, i. e. (1) The doses of streptococci have, in all instances, been less than two billion, and in most cases between one-half and one billion.

These are approximate numbers. (2) The animals have been allowed to live a longer time after injection.

The gross pathological lesions present in the forty-seven rabbits are given below. The microscopical examinations of these have not as yet been completed, but in so far as these observations have progressed, the gross diagnoses have been confirmed. Following is the table of Rosenow in the animals autopsied:

Appendicitis was present in	2%
Hemorrhage of stomach	40%
Ulcer of stomach	13%
Ulcer of duodenum	2%
Hemorrhage or pus in gall bladder	13%
Hemorrhage in pancreas	15%
Hemorrhage into peritoneum	5%
Arthritis and periostitis	40%
Endocarditis	28%
Pericarditis	5%
Myocarditis	5%
Nephritis	30%
Hemorrhages or other lesions of the lungs	10%
Hemorrhages into the skin	2%
Tongue	0%
Eye	4%
Hemorrhages into jaw	20%

The hemorrhages into the jaw have not been previously described, except in a paper on experimental scurvy by Jackson and Moody before the American Association of Pathologists and Bacteriologists in St. Louis, April, 1915. These hemorrhages occur beneath the periosteum of the lower jaw before the central incisors. Occasionally they occur on only one side, but may be present on both.

This series is too small to draw any definite conclusions. They, however, indicate a certain amount of selective localization for the streptococcus viridans isolated from chronic alveolar abscesses. To be more specific, these organisms produced gross evidences of muscle involvement in 60 per cent., joint and bone, aside from the jaw, in 40 per cent.; stomach in 40 per cent., kidney in 30 per cent., and jaw in 20 per cent.*

We occasionally find what I have termed atypical alveolar abscesses, the lateral abscess of black on the sides of the roots of teeth having live pulps.

Black believed that these abscesses were due to acute pyorrhea alveolaris attacks, the infection extending from the gingival border root-wise through a narrow channel on the side of the root.

Since Moody and I have found in 20 per cent. of our cases sub-periosteal hemorrhages in the jaws, I am inclined to believe that similar hemor-

*The above experimental work was done in St. Luke's Hospital Laboratory.

rhages may be found in the peridental membrane. If hemorrhages are caused by the streptococcus in the periosteum, may it not cause a like condition in the peridental membrane as well?

Since the area involved in hemorrhage may later become abscessed, then if the peridental membrane participates in like hemorrhages we have a seeming scientific solution of the atypical alveolar abscess. As yet we have not examined the peridental membrane for hemorrhages, but intend to look for them in this organ.

[*New York Medical Journal*, February 12, 1916]

EMETINE IN HEMOPTYSIS IN CHEST WOUNDS

J. Dupont and J. Troisier, in *Bulletins et mémoires de la Société médicale des hôpitaux de Paris*, November 27, 1914, report three cases of penetrating rifle bullet wounds of the thorax with hemoptysis, in which emetine was used with results apparently as satisfactory as those already reported by several observers of the hemoptysis of pulmonary tuberculosis. In the first case, with a wound at the base of the left lung, arterial blood was being abundantly expectorated upon admission, and the man was dyspnœic and oppressed, and presented signs of a slight hemothorax. The condition persisting throughout the night in spite of the dressing applied, a subcutaneous injection of two thirds of a grain (0.04 gram) of emetine hydrocholoride was given. In the afternoon the bloody expectoration showed marked reduction, and in the succeeding night ceased almost completely. A week later, the patient was discharged in excellent condition. In a second similar case, a single injection of emetine was also followed in a few hours by cessation of bloody expectoration. In the third case, that of a man wounded a week before, bloody expectoration had been continuous, and auscultation revealed a tendency to consolidation of the lower portions of the lungs, with crepitant râles.

A MOUTH WASH IN GRIPPE

Dr. Beverley Robinson, in an original communication on the Treatment of grippe in this issue of the *Journal*, page 293, recommends as a mouth wash and gargle the well known liquor antisepticus alkalinus. Doctor Robinson informs us that even more efficacious is a mixture devised by his friend, Dr. Augustus Wadsworth, and published in a communication, Mouth Disinfection, in the Prophylaxis and Treatment of Pneumonia, in the *Journal of Infectious Diseases* for October, 1906, page 774. The formula is as follows:

℞ Sodium chloride (C.P.) . . . . . ℥ss;
Sodium bicarbonate (C. P.) . . . . . gr. x;
Water (dist.) . . . . . ℥ij;
Glycerin . . . . . ℥j;

Alcohol	℥v;
Thymol, Menthol	āā gr. j;
Oil of wintergreen	gtt. iij;
Oil of cinnamon	gtt. ij;
Oil of eucalyptus	gtt. v;
Tinct. cudbear	℥jss;
Tinct. rhatany	℥ss.

M. Sig.: Dilute with an equal volume of water.

In preparing this solution, remarks Doctor Wadsworth, the salts should be dissolved in the water before adding alcohol. Even when carefully made up, a cloudiness or precipitate may appear in the solution, on account of the presence of rhatany. By adding two or three of the flavoring oils a less pronounced taste is obtained than when only one is used.

[*New York Medical Journal*, March 4, 1916]

RECOVERY OF STREPTOCOCCUS VIRIDANS FROM NEW YORK STREET DUST

By William C. Thro, M.D., New York

(*From the Department of Clinical Pathology, Cornell Medical College, New York.*)

In view of the almost universal presence of Streptococcus viridans in infections of the oral cavity and of the respiratory tract—note the work of Hastings, Cecil, and others and its almost constant presence on the tips of the roots of teeth extracted from patients with chronic infectious arthritis, the recovery of this particular microörganism from the out of door dust seems a matter worthy of investigation. While we believe that such infections are transmitted, in the great majority of cases, from person to person by contact, sneezing, and expectoration, still it seems to be within the range of possibility that the streptococcus may be spread by the dust. That this dust is inhaled in large amounts no one will deny.

The true Streptococcus viridans has been recovered from dust collected from a balcony twenty feet above the street level, and some of the strains are pathogenic for rats. It is possible, too, that this streptococcus may come from the dried feces of domestic animals, particularly the horse, since some of the strains ferment some of the same carbohydrate as Streptoccocus equinus does, for example.

[*Journal American Medical Association*, February 12, 1916]

THIONIN AS A DIAGNOSTIC STAIN IN PYORRHEA ALVEOLARIS

Martin Dupray, B.S., M.S., Columbia, Mo.

I have seen no mention in the literature on endamebas in pyorrhea alveolaris of the use of thionin as a diagnostic stain for the endameba. In the past fifteen months while doing microscopic work for several dentists in this city, it has been my privilege to examine a large number of

slides of alveolar exudate for endamebas and other organisms. Most of the preparations were stained before being examined, and the stain used in the majority of cases was thionin. The stain was prepared according to the following formula:

Thionin	0.5 gm.
Distilled water	100.0 c.c.
Phenol (carbolic acid) crystals	2.0 gm.

This solution must be prepared fresh every three or four months.

To prepare the slide, a smear is made of the exudate as with other pus and dried in the air. The smear is then fixed in the flame and stained a few seconds while still warm with the thionin solution. The stain is washed off with water and the slide dried. It may be mounted in balsam with a cover glass, or examined direct in immersion oil as desired. The endamebas are stained quite distinctly by this method. The cytoplasm is stained a light purplish violet and the nuclei a deeper reddish violet. Ingested blood corpuscles and other material undergoing digestion in the body of the organism are stained nearly black. The pus cells in the smear are stained a light blue, with their nuclei a deeper blue. Bacteria are also well stained, the fusiform bacilli and spirillas being especially plain. The endamebas stand out quite distinctly in the smear, and are easily recognized. A person accustomed to the use of the microscope can usually see them easily with the low power (two-thirds or 16 mm.) objective, using the high power only for verification; hence a considerable area of the smear can be covered in a short time.

I have found the stained preparations much more reliable than unstained preparations, and much quicker, on account of the time consumed in examining an unstained slide. Thionin has also given more uniform results than the double staining method with fuchsin and methylene blue, and the stain is made more quickly and easily.

This stain does not give good histologic pictures of the endamebas and is recommended only as a diagnostic stain, for which purpose it gives very plain pictures of both the endamebas and the bacteria.

[*Journal American Medical Association*, February 19, 1916]

THE TOXITY OF ARSENOUS AND ARSENIC ACID

Compounds of arsenic are becoming so prominent in therapy, and the types of arsenic products for use in medicine have become so diverse, that any information bearing on their possible mode of action should be welcome. The familiar derivative of arsenic which early found its way into use both as a drug and as a poison is the white arsenous oxid, often itself spoken of simply as arsenic. The salts of arsenous acid are also employed, as in Fowler's solution. Arsenic action is not due to the element, but to

the ion of arsenous acid, H_3AsO_3. Organic arsenic compounds in which the metallic atom is attached directly to carbon are only feebly toxic. In the course of time, within the body they seem to yield more or less arsenous acid, a reaction which may suffice to explain any pharmacologic potency possessed by the organic derivatives. It is a somewhat unexpected fact that the closely related arsenic acid H_3AsO_4, its anhydrid and its salts are far less poisonous than is arsenous acid. This statement has now and then been disputed, but only recently again substantiated at the pharmacologic institute of the University of Berlin by Joachimoglu. The relatively greater toxicity of arsenous in comparison with arsenic acid could be demonstrated by the proportion of 10:6 in the case of the lethal dose required for intravenous injection in animals. Perfusion experiments with isolated frogs' hearts indicated the arsenous compounds to be 300 times as harmful as those of arsenic acid. In the case of the isolated intestine the contrast, though plain, was not equally striking. This has raised the question why there should be a marked disproportion in the relative toxicity of comparable quantities of arsenic and arsenous acids, depending on the mode in which the test is made. The explanation proposed is as follows: The toxicity of the arsenic acid depends on the reducing power of the tissues with which it comes into contact. By this means it is converted into the very poisonous arsenous compound. Some individual organs or tissues have comparatively slight reducing potency. In the isolated heart, for example, arsenic acid exhibits little toxicity. Throughout the living organism as a whole the reduction of arsenic acid appears to be far more readily accomplished; hence, after intravenous administration of the ordinarily less nocuous derivative, it may become more toxic so promptly by conversion to arsenous acid that the real difference between these related arsenic derivatives is no longer conspicuous. This may also explain some of the uncertainty or confusion which has existed in the past in respect to the comparative action of the two substances.

[*Journal American Medical Association*, February 19, 1916]

(*American Journal Medical Sciences*)

TONSILLAR ENDAMEBIASIS AND THYROID DISTURBANCES

Tonsillar lesions of an infective cryptic character were found by the authors in 22.8 per cent.; and nasal together with tonsillar lesions existed in 90 per cent. of 362 goitrous individuals examined from this standpoint. In typically diseased tonsils, out of thirty-four cases examined microscopically, 97 per cent. were found to harbor *Endamœba gingivalis* (gros) in the tonsillar crypts. Of sixteen individuals of this group who after treatment by means of emetine hydrochlorid were reëxamined, thirteen, or

81 per cent., were shown no longer to have endamebas in the cryptal contents. In twenty-three persons to whom emetine was administered a reduction in the bulk of the goitre was appreciable in eighteen; and of seven dysthyroid cases included in this group of those treated, six were benefited in degrees varying from slight amelioration to apparent cure.

(*Archiv für Kinderheilkunde, Stuttgart*, November 2, 1915)

HIGH ARCHING PALATE

Landsberger comments on the disturbances almost inevitable when the palate runs up abnormally high. The nasal passages are interfered with by it and mouth breathing is inevitable. It also entails a tendency to a vacuum in the nasopharynx which acts injuriously on the ear and on the local circulation. The space inside this part of the skull is also encroached on by the high palate. The disturbances from the latter are often ascribed to the adenoids frequently found with it. Another serious trouble from it is the resulting abnormal development of the teeth. The germinal buds do not develop centrifugally, as in normal conditions, but straight downward. The condition can be remedied by straightening the roof of the mouth, forcing its sides apart and thus bringing the concave palate down to be more nearly flat. He gives illustrations of a spring and screw apparatus for the purpose. It is worn between the teeth, forcing the rows apart. It does not interfere with speaking or eating, and an actor wore it without interfering with his professional work. The benefit in children was almost miraculous in some cases. Deafness subsided, as also asthma and the headaches which had tormented the children for years. Abnormal salivation was also arrested, and a tendency to coryza, tonsillitis and bronchitis, while the general growth was promoted. All these changes are readily explained by the differences seen in the roentgenograms taken before and after wearing the brace.

[*Journal American Medical Association*, March 4, 1916]

THE INTERRELATION BETWEEN SALIVARY AND GASTRIC DIGESTION

Physiologists have long known that the starch-digesting enzyme present in the saliva of man is destroyed as soon as it is exposed to even small concentrations of "free" hydrochloric acid, or, in terms of modern chemical interpretation, hydrogen ions present in the stomach. From the standpoint of a useful performance on the part of the starch-digesting saliva, the ready inhibition of its effectiveness as a digestive agent was somewhat mystifying when it was first discovered; for the duration of amylolytic activity appeared to be restricted essentially to the very brief period during which the foods are retained in the mouth, masticated and swallowed. Subsequently it was ascertained that the actual sequence of events within the stomach does not compel an immediate mixing of the

entering contents with the gastric juice which is being secreted. The mass that is swallowed in successive portions accumulates at first in the fundus of the stomach; and since in the absence of vigorous muscular movements in that region the contents are penetrated with great difficulty by the gastric secretion which is continually being poured out by the walls of the stomach, salivary digestion can actually proceed for a considerable time without serious interruption. In view of the rapidity with which the salivary enzyme can convert starch into soluble sugar, the preliminary digestion of carbohydrates can therefore usually be completed before destruction of the effective agent in the saliva takes place. Dr. Maxwell of the physiologic laboratory at the University of Melbourne, has suggested a further function of the salivary enzyme which he believes to be of importance for the later digestive processes. It has long been known that many substances in suspension or in colloidal solution have the power of absorbing enzymes, thereby inhibiting their activity. Maxwell has found experimentally that although unboiled starch administered in the form of intact grains does not hinder the action of pepsin, peptic digestion may be delayed in the presence of colloidal starch solutions through absorption of the proteolytic enzyme. The time interval for the peptic digestion may, for example, be increased fourfold in the presence of a 2 per cent. starch solution. There is a stage in the progressive digestive disruption of the starch molecule at which the capacity of absorption of pepsin is lost. This is coincident with the appearance of dextrins, even before sugars are formed. In accord with the foregoing it is actually found that cooked farinaceous foods—rice, potato, bread, porridge, etc. —all hinder peptic digestion if they are not first subjected to the salivary digestion. The inhibition of peptic activity by carbohydrates like gum acacia is not prevented by a previous contact with saliva for the reason that they are not digested by it. The positive feature to which Maxwell has drawn attention has been summarized by the statement that the saliva of man, by virtue of its enzyme ptyalin or amylase, plays a considerable part in aiding gastric digestion by hydrolyzing colloidal starch which would otherwise absorb pepsin.

FACTS ABOUT THE BEHAVIOR OF THYMOL IN THE BODY

In connection with the treatment of hookworm disease and comparable forms of intestinal infection with parasitic invaders, considerable prominence has been given to the use of thymol (methylisopropylphenol), a phenol derivative obtained commercially from oil of ajowan and occurring in oil of horsemint, oil of thyme and some other volatile oils. Thymol is an antiseptic comparable in many ways to phenol and the cresols, but it is less soluble in water, and for this reason has been supposed to be absorbed

with greater difficulty from the alimentary tract. The latter assumption has made it seem more valuable as an antiseptic for use in the gastro-intestinal tube because of the protection from direct intoxication by the drug thereby afforded to the organism as a whole while the parasite is being destroyed. Owing to the solubility of thymol in oils, it has repeatedly been urged that, when the drug is used, fatty substances should be avoided in the diet in order to avert undue absorption of the large doses required for anthelmintic effects. One might expect that a compound with these properties would reappear in considerable quantities in the feces after its administration by oral paths. Investigations in the Hygienic Laboratory of the U. S. Public Health Service have shown, however, that only insignificant amounts of ingested thymol are excreted in this way. This would indicate that thymol is almost completely absorbed from the alimentary tract and must therefore be oxidized in the body or excreted in the urine. Seidell has therefore directed attention to the behavior of the compound after absorption. It has long been known that absorbed thymol may reappear in the urine as a glycuronate, just as other alcoholic derivatives conjugate with glycuronic acid in the metabolism. A careful study of the fate of thymol gave promise of disclosing the mechanism of its action on hookworms, and consequently of indicating the path to be followed in developing drugs of greater potency and safety than thymol. Even now it is being urged that the oil of chenopodium or oil of American wormseed be thus employed. The supply of thymol is said to be extremely limited at present, and the oil of chenopodium is regarded as generally safer. Seidell has found that less than 50 per cent. of the thymol administered either to experimental animals or to human patients who received the thymol treatment for hookworms reappears in the urine. This result, in connection with the previously mentioned experiments on the determination of thymol in the feces, shows that of the thymol administered, from one half to two thirds is apparently destroyed or fixed in the body. A similar fate is suggested for compounds of related type, such as the simpler phenols. No satisfactory explanation has as yet been found for this apparent disappearance of administered phenols. With respect to the fraction that is not reëxcreted as glycuronate, it has been surmised that it may be temporarily fixed by the tissues or eliminated by volatilization with the expired air. This is mere conjecture without any supporting evidence. From a practical standpoint there is significance in Seidell's finding that the simultaneous administration of olive oil with thymol apparently caused very slight if any effect on the percentage of excreted drug. In his opinion it is a question, therefore, whether oils really increase the amount of absorption or only the rate.

[*Medical Record*, February 19, 1916]

CHLORAMINE IN THE TREATMENT OF WOUNDS OF THE MOUTH AND JAWS

A. R. Fisher says that the septic character of all gunshot wounds involving the mouth and the disadvantages attending the use of the common antiseptics led him to try chloramine (toluene sodium sulphochloramide) in seven cases, five being compound fractures of the jaw and two flesh wounds involving the mouth. A two per cent. aqueous solution of this agent was used for irrigation, which was carried out every hour during the day and as often as possible during the night. Chloramine besides being a powerful antiseptic has the property of penetrating the tissues, and is not so readily neutralized by albuminous discharges as the simpler chemical antiseptics. It is bland and non-irritant. While the number of cases treated was small the results were most encouraging.

[*Dental Items of Interest*, March, 1916]

Exclusive Contributions

Antihygienic Conditions of the Oral Cavity and Dental Maladies, May Lead Not Only to Tuberculous Infection but to Many Other Systemic Maladies. By N. L. Castiglia, D.D.S.

The Etiology and Treatment of Pyorrhea Alveolaris. By G. Chisolm, D.D.S.

Further Facts Regarding Succinimide of Mercury as a Cure for Pyorrhea. By Dr. George H. Reed, A.A., Dental Surgeon, U.S.N.

The Average Dentist and Root Canal Work. By Samuel Lang, D.D.S.

Orthodontia

Dr. Edward H. Angle's Pin and Tube Appliance. By A. H. Ketcham, D.D.S.

Prosthodontia

Anatomical Dentures. By Seimaro Shimura, D.D.S.

Resiliency as Opposed to Rigidity in Artificial Teeth. By R. Morse Withycombe.

Society Papers

Therapeutic and Surgical Treatment of Roots and the Adjacent Tissues. By J. F. Biddle, D.D.S.

The Restoration of Masticatory Function with Carved Gold Inlays. By Rodrigues Ottolengui, M.D.S., LL.D., D.D.S.

An Informal Talk on Inlays. By Dr. E. S. Tracy.

Oral Hygiene and Its Relation to Better Health Conditions. By J. P. Delvin, D.D.S.

[*British Dental Journal*, February 16, 1916]

Original Communications

Valedictory Address. By G. Northcroft, L.D.S. Eng., D.D.S. Mich.

A Case of Impetigo Contagia cured by the Extraction of Septic Teeth. By W. Nicholson, L.R.C.P., M.R.C.S., L.D.S. Eng.

Alum Wool. By J. T. Hall, L.D.S.I.

Gestant Composite Odontomes. A Case Reported by Mr. A. Barritt, L.D.S. Eng.

Abstracts and Translations

Mastication and Food Utilization.

Sterilizing Dental Instruments.

Oxpara for Filling Root Canals.

Case of Associated Jaw and Lid Movement. By Captain A. W. Ormond, F.R.C.S.

SOCIETY NOTES

ALABAMA.

The next meeting of the Alabama Dental Association will be held at Mobile, Ala., April 11, 1916.—J. A. BLUE, Birmingham, Ala., *Secretary.*

ARIZONA.

The next meeting of the Arizona Board of Dental Examiners will be held in Phoenix, Ariz., October 9–15, 1916.—EUGENE MCGUIRE, 302 Noll Bldg., Phoenix, *Secretary.*

CONNECTICUT.

The Connecticut State Dental Association will meet in New London, Conn., at Hotel Griswold, June 13–15, 1916.—ELWYN R. BRYANT, New Haven, Conn., *Secretary.*

FLORIDA.

The next meeting of the Florida State Dental Society will take place at Orlando, Fla. June 21, 1916.—M. C. IZLAR, Ocala, Fla., *Secretary.*

GEORGIA.

The forty-seventh annual meeting of the Georgia State Dental Association, will be held at Macon, Ga., June 8–10, 1916, beginning at 11 A.M. Thursday, June 8th.—M. M. FORBES, 803 Candler Bldg., Atlanta, Ga., *Secretary.*

IDAHO.

The next meeting of the Idaho State Dental Society, will be held at Boise, June, 1916.—R. J. CRUSE, Pocatello, Idaho, *Secretary.*

ILLINOIS.

The Illinois State Dental Society will hold its next meeting at Springfield, Ill., May 9–12, 1916.—HENRY L. WHIPPLE, Quincy, Ill., *Secretary.*

INDIANA.

The fifty-eighth annual meeting of the Indiana State Dental Association will be held at the Claypool Hotel, Indianapolis, May 16–18, 1916.—A. R. ROSS, Lafayette, *Secretary.*

IOWA.

The next meeting of the Iowa State Dental Society will take place at Des Moines, Iowa, May 2–4.—H. A. ELMQUIST, Des Moines, Iowa, *Chairman of Exhibit.*

KENTUCKY.

The Kentucky State Dental Society, will hold its next meeting at Louisville, July 24, 1916.—W. T. FARRAR, 519 Starks Bldg. Louisville, Ky., *Secretary.*

The next meeting of the National Dental Association will be held in the 1st Regiment Armory, Louisville, Ky., July 25-28, 1916.—OTTO U. KING, Huntington, Ind., *Secretary.*

MASSACHUSETTS.

The next meeting of the Massachusetts Dental Society will be held in Boston, Mass., May 3–5, 1916.—A. H. St. C. CHASE, Boston, Mass., *Secretary.*

MICHIGAN.

The Michigan State Board of Dental Examiners will meet in the Dental College at Ann Arbor, June 19, 1916, at eight o'clock A.M.; for application blanks apply to E. O. GILLESPIE, Stephenson, Mich., *Secretary-Treasurer.*

MISSISSIPPI.

The next meeting of the Mississippi Dental Association will be held at Jackson, Miss., May 1–3, 1916.—M. B. VARNADO, Osyka, Miss., *Secretary.*

NEBRASKA.

The Nebraska State Dental Society will hold its next meeting in Lincoln, Nebr., May 16–18, 1916.—H. E. KING, Omaha, Nebr., *Secretary.*

NEW YORK.

The Dental Society of the State of New York will hold its next meeting at the Hotel Ten Eyck, Albany, N. Y., May 11–13, 1916.—A. P. BURKHART, 52 Genesee St., Albany, N. Y., *Secretary.*

PENNSYLVANIA.

The fifty-third annual meeting of the Lake Erie Dental Association will be held at Hotel Bartlett, Cambridge Springs, Pa., May 18–20, 1916—J. F. SMITH, 120 W. 18th St., Erie, Pa., *Secretary.*

The thirty-fifth annual meeting of the Odontological Society of Western Pennsylvania will be held at the Monongahela House, Pittsburgh, Pa., Tuesday and Wednesday, April 11 and 12, 1916.—KING S. PERRY, 719 Jenkins Bldg., Pittsburgh, Pa., *Secretary.*

The next regular examination of the Pennsylvania Board of Dental Examiners will be held in the Musical Fund Hall in Philadelphia, and the College of Pharmacy Building in Pittsburgh, on June 14–17, 1916. The practical work will be held at the Philadelphia Dental College in Philadelphia, and the University of Pittsburgh in Pittsburgh, on the first day, June 14th, the operative work being held at eight-thirty A.M., and the prosthetic work at one-thirty P.M.—ALEXANDER H. REYNOLDS, 4630 Chester Ave., Philadelphia, Pa., *Secretary.*

SOUTH CAROLINA.

The forty-sixth annual meeting of the South Carolina State Dental Association will be held at Chick's Springs, So. Car., July 11–13, 1916.—ERNEST C. DYE, Greenville, So. Car., *Secretary.*

TEXAS.

The Texas State Dental Association will hold its next meeting at Dallas, Texas, May 9–12, 1916.—W. O. TALBOT, Fort Worth, Texas, *Secretary.*

VERMONT.

The next meeting of the Vermont Board of Dental Examiners, for the examination of candidates to practise in Vermont, will be held at the State-house, Montpelier, June 26–28, 1916.—HARRY F. HAMILTON, Newport, Vt., *Secretary.*

WEST VIRGINIA.

The next meeting of the West Virginia State Dental Association will be held at the Kanawha Hotel, Charleston, W. Va., April 12–14, 1916.—J. W. PARSONS, Huntington, W. VA., *Secretary.*

WISCONSIN.

The meeting of the Wisconsin State Board of Dental Examiners will be held at the Marquette Dental College, Cor. 9th and Wells St., Milwaukee, Wis., June 14, 1916, commencing at nine o'clock.—F. A. TATE, Daniels Blk., Rice Lake, Wis., *Secretary.*

The next meeting of the Wisconsin State Dental Society will be held in Wausau, Wis., July 11–13, 1916.—THEO. L. GILBERTSON, *Secretary.*

The Louisiana State Dental Society

LAKE CHARLES
LOVES COMPANY

The Louisiana State Dental Society will hold their annual meeting in Lake Charles, one of Louisiana's most picturesque cities, May 1–3, 1916. An exceptionally unique, interesting and instructive program has been arranged, and all visiting ethical dentists as might de sire to attend are cordially invited.—J. CRIMEN ZEIDLER, Suite 1129 Maison Blanche Bldg., New Orleans, La., *Secretary.*

FUTURE EVENTS

April 4–7, 1916.—Dental Manufacturers' Club, Chicago, Ill. Meeting in the Banquet Hall, Auditorium Hotel.—*Chairman Exhibit Committee,* A. C. CLARK, Grand Crossing, Chicago.

April 11, 1916.—Alabama Dental Association, Mobile, Ala.—J. A. BLUE, Birmingham, Ala., *Secretary.*

April 11–12, 1916.—Odontological Society of Western Pennsylvania, Monongahela House, Pittsburgh, Pa.—KING S. PERRY, 719 Jenkins Bldg., Pittsburgh, *Secretary.*

April 12–14, 1916.—West Virginia State Dental Association, Kanawha Hotel, Charleston, W. Va.—J. W. PARSONS, *Secretary.*

April 13–15, 1916.—Michigan State Dental Society, Detroit, Michigan.—CLARE G. BATES, *Secretary.*

May 2–4, 1916.—Iowa State Dental Society, Des Moines, Ia.—H. A. ELMQUIST, Des Moines, Ia., *Chairman of Exhibit.*

May 3–5, 1916.—Massachusetts Dental Society, Boston, Mass.—A. H. ST. C. CHASE, Boston, Mass., *Secretary.*

May 8–10, 1916.—Ontario Dental Society, College Bldg., Toronto, Can.

May 9–10, 1916.—North Dakota State Dental Association.—A. HALLENBERG, Fargo, No. Dak., *Chairman Exhibit Committee.*

May 9–12, 1916.—Texas State Dental Association, Dallas, Tex.—W. O. TALBOT, Fort Worth, Tex., *Secretary.*

May 9–12, 1916.—Illinois State Dental Society, Springfield, Ill.—HENRY L. WHIPPLE, Quincy, Ill., *Secretary.*

May 11–13, 1916.—Dental Society of the State of New York, Hotel Ten Eyck, Albany, N. Y. —A. P. BURKHART, 52 Genesee St., Albany, N. Y., *Secretary.*

May, 16–18, 1916.—Susquehanna Dental Association, Young Men's Hebrew Association Bldg., Scranton, Pa.—GEO. C. KNOX, 30 Dime Bank Bldg., Scranton, Pa., *Recording Secretary.*

May 16–18, 1916.—Nebraska State Dental Society, Lincoln, Neb.—H. E. KING, Omaha, Neb., *Secretary.*

May 17–18, 1916.—Indiana State Dental Association, Claypool Hotel, Indianapolis.—A. R. ROSS, Lafayette, *Secretary.*

May 18–20, 1916.—Lake Erie Dental Association, Hotel Bartlett, Cambridge Springs, Erie, Pa.—J. F. SMITH, *Secretary.*

June 1916.—Utah State Dental Society, Salt Lake City.—E. C. FAIRWEATHER, Salt Lake City, Utah, *Secretary.*

June 1–3, 1916,—Northern Ohio Dental Association, Cleveland, O.—CLARENCE D. PECK, Sandusky, O., *Secretary.*

June 8–10, 1916.—Georgia State Dental Society, Macon, Ga.—M. M. FORBES, Candler Bldg., Atlanta, Ga., *Secretary.*

June 13–15, 1916.—Connecticut State Dental Association, Hotel Griswold, New London, Conn.—ELWYN R. BRYANT, New Haven, Conn., *Secretary.*

June 14, 1916.—South Carolina State Board of Dental Examiners will be held at Jefferson Hotel, Columbia, S. C.—R. L. SPENCER, Bennettsville, S. C., *Secretary.*

June 21, 1916.—Florida State Dental Society, Orlando, Fla.—M. C. IZLAR, *Corresponding Secretary.*

June 20–22, 1916.—New Hampshire Dental Society, Lake Sunapee, Zoo-Nipi Park Lodge, Lisbon, N. H.—J. E. COLLINS, *Chairman Exhibit Committee.*

June 26, 1916.—North Carolina State Board of Dental Examiners, Battery Park Hotel, Asheville, N. C.—F. L. HUNT, Asheville, *Secretary.*

June 27–29, 1916.—Pennsylvania State Dental Society, Pittsburgh, Pa.—LUTHER M. WEAVER, 1103 Woodland Ave., Philadelphia, Pa., *Secretary.*

June 28–30, 1916.—North Carolina State Dental Society, Asheville, N. C.—R. M. SQUIRES, Wake Forest, N. C., *Secretary.*

June 29–July 30, 1916.—Maine Board of Dental Examiners.—HAROLD L. EMMONS, Masonic Bldg., Saco, Me., *Secretary.*

July 11–13, 1916.—South Carolina State Dental Association, Chick's Springs, S. C.—ERNEST C. DYE, Greenville, S. C., *Secretary.*

July 11–13, 1916.—Wisconsin State Dental Society Meeting, Wausau.—THEODORE L. GILBERTON, *Secretary.*

July 12–15, 1916.—New Jersey State Dental Society, Asbury Park, N. J.—JOHN C. FORSYTH. Trenton, N. J., *Secretary.*

July 20–22, 1916.—American Society of Orthodontists, Pittsburgh, Pa. Address communications to F. M. Casto, 520 Rose Bldg., Cleveland, O.

July 24, 1916.—Kentucky State Dental Society, Louisville Ky.—W. T. FARRAR, 519 Starks Bldg., Louisville, *Secretary.*

July 25–28, 1916.—National Dental Association, 1st Regiment Armory, Louisville, Ky.—OTTO U. KING, Huntington, Ind., *Secretary.*

October 9–15, 1916.—Arizona Board of Dental Examiners, Phœnix, Ariz.—EUGENE MCGUIRE, 302 Noll Bldg., Phœnix, *Secretary.*

October 18–20, 1916.—Virginia State Dental Association, Richmond, Va.—C. B. GIFFORD, Norfolk, Va., *Corresponding Secretary.*

January 23–25, 1917.—American Institute of Dental Teachers, Philadelphia, Pa.—ABRAM HOFFMAN, 529 Franklin St., Buffalo, N. Y., *Secretary-Treasurer.*

FOLLYGRAPHS

BY OSCAR SCHLEIF

Consultation, operation.

A sweet tooth usually needs filling.

Love one another, but not another one.

It's the trying, not the doing, that counts.

There's many a gossip twixt the cup and the lip.

None can think time, but who has lived it.

Laugh if the world will borrow, weep if you get a loan.

What truth is stranger than that facts make fiction, and fiction certainly is a fact?—*Physical Culture.*